"Close Encounters"

A study of the visual language of sculpture.

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Preface

It was, I recall, around 1971 when talking about Descartes that my school teacher put forward an argument that had a profound affect on my subsequent thinking. He argued that Descartes' famous statement, 'I think, therefore I am', was flawed. He, Descartes, had made in this statement the assumption, 'I think'. Following from this, without proving that he thinks Descartes cannot prove his existence and as his existence depends on his unproved ability to think, his philosophical premise is merely tautological.

Shortly after this I read Bertrand Russell's, 'The History of Western Philosophy'. I could not help thinking - and subsequent re-readings have only confirmed my suspicions, which were only strengthened during my tutorials in the history of epistemology during my studies for my Bachelor of Arts degree - that each philosopher seemed to base his premises on a misunderstanding of a previous philosopher about whom he spoke, a misunderstanding caused by the inadequacy of language. I later began to realise that not only philosophy, but also scientific argument always begins with some premise which the author then tries to prove. The proof may sound most convincing but inevitably relies on the initial premise being correct. If the proof is right then so is the premise. If the premise is right then so may be the proof. Scientific advance relies on proving the premises of a previous theory to be inadequate. Newtonian physics were law until Einstein changed the parameters and today Einstein's theory of relativity has in turn been amended, although not, yet, completely discredited.[1]

I have now been practising as a sculptor for twenty three years, (including five student years) and have found little space in making sculpture for this kind of scientific thinking. In making art, intuition and chance play a very great role and interestingly enough a number of scientists have now become interested in the way that artists think.[2]

I mention these points in that they determine the structure of my text. I have become so unused to thinking in a strictly academic manner that I have decided to arrange my material as two parallel texts. Alongside and intermingled with the main theme are a series of biographical anecdotes and quotations from other writers. These are limited to matters relevant to the main argument or to my thinking in general and may, or may not, be elaborated on in the main text. I have chosen this methodology as I wish to allow room for intuition and accidents - for chance associations and insights into the main themes. These biographic writings are also a kind of apology for my lack of scholarship. I tend to clear my memory of large amounts of data on a regular basis and am often, thus, unable to distinguish whether an idea is original to me, or the result of something read many moons ago. These biographic notes are written in the present tense, for although they happened in the past they are memories tempered by time. Some notebook entries are also used and for these the exact date is given and not only the year. Having said this, I hope that a more serious intention will become clear in this method. All experience is essentially personal, but their are aspects of our experience which we may consider to be universal. Part of my quest is to unravel those aspects of our being and our art which may be considered to be personal, and those which have a common basis in us all.

I am acutely aware that I have used much material here that would, I suspect, normally be disregarded by most academics as being not based in the accepted scientific, rational procedures that they favour. That is my prerogative as a sculptor, for I can find

interesting and useful information in the strangest of places. Much of what contributes to my world view would probably seem laughable to 'normal' intellectual thought. I see this as, ultimately, mentally liberating and, I hope, allows me to see things in a different light. If I can throw new light on an old subject then the endeavour of writing this text will prove worthwhile. I am sure, however, that it will infuriate some, if not many.

There are moments in one's life when one feels totally overwhelmed. They may occur on hearing a piece of music, or when looking at a work of art. They are an emotional response to, what we tend to refer to as, 'beauty'. One such moment, or collection of moments, was the performance of Mahler's Third Symphony in the Cathedral of Pécs, some years ago. It was simply extraordinary and I have not heard the work performed so successfully by the world's leading orchestras. As it finished there was a silence, which seemed to last for about a minute before the long and thunderous applause began. One knew that one had been in the presence of great art.

I have had similar experiences in front of the paintings of Mark Rothko which have their own room in London's Tate Gallery, in the Orangerie in Paris, where I saw my first Brancusi sculpture, the 'Bird in Space' from the Guggenheim Collection in Venice, and in front of a small drawing by Henry Moore of his own hands, in an eightieth birthday drawing retrospective, again, in London.

The theme which underlies this look at the language of sculpture is an attempt to establish the origin of these moments, for they are, I believe, the ultimate experience that art can provide.

Footnotes:

[1] British astronomer Sir Fred Hoyle has made some amendments to this theory.

[2] Benoit B. Mandelbrot 'The Fractal Geometry of Nature' Cambridge, Mass, 1980.

Part 1 Sculpture as language

Chapter 1 Introduction

In the 1970's William Tucker held a series of seminars at St. Martin's School of art in London entitled "What Sculpture is". Tucker argued that what differentiates a sculpture from any other object is its "visibility". A sculpture's primary function, before any other subsidiary function that it may have, is that it is made to be seen. I still find this a useful definition today.[1]

Let us dig a little deeper by comparing a sculpture to say, a chair. A chair is, by its nature, made to be sat on, although it may also be used for other purposes - say to stand on to reach something on a high shelf, or indeed, in certain pubs in our big cities, as a weapon. It may indeed be beautiful to look at. It may be highly decorated, or it may have a kind of beauty in its simplicity. A sculpture may also be sat on, used as a temporary ladder or, indeed, as a temporary weapon, but this is not its prime function. It is made to be seen and, through this act of seeing, to convey messages to the beholder. It is the nature of these "messages" and how they are created and seen that is a central concern of this text.

"Chair" is a word, a signifier. When we hear the word "chair" we, who understand English, know what the word means, although our understanding of it may vary a little. We may on hearing it, if we think a little, remember a favourite chair, or perhaps we have an idea of an 'ideal' chair. The word "sculpture" may affect us in a similar way when we hear it and bring to mind a particular example, or, indeed, trigger in our minds an image of some kind of an ideal sculpture. So what is the difficulty? Why a need to define what a sculpture is? Tucker argued that the term "sculpture" had been so debased in its modern usage as to have almost no meaning. When Anthony Caro flippantly said that "sculpture can be anything" he was taken rather too literally and videos of people throwing twigs in water became "sculpture" as did a photograph of someone walking in a straight line through the desert. Some people argued, (and still do), that sculpture is what sculptors do. Now that is a tautology if ever there was one. Clearly a word which can mean anything loses all its value as a signifier. A "chair" which is a walk in a straight line through the desert is clearly absurd and just so a "sculpture" like this.

Given this situation it is my intention to take another look in the following pages, as Tucker himself did, at what sculpture is. I wish to make an analysis of the sculptural language and to look at our ability to formulate and use this language.

It is 1972. I am standing on Caldy beach. The sea washes a great deal of refuse from Liverpool Bay onto the shore. There are plastic bottles everywhere, used contraceptives and assorted pieces of driftwood. Sometimes there are dead sheep and once a cow, another time a seal. I often come here to think or draw. This time I suddenly start to make things. I make a series of drawings from seaweed and plastic, knowing that the tide will later wash them away. It is a revelation. I am intervening in nature and time. I make a series of crosses from different materials. They say "I was here". I have marked a spot. The junction of the

arms of the cross is the middle of the world. I find a huge wooden beam, around four metres long, covered in tar and very heavy. I have the urge to stand it up. It is too heavy to lift so I start to dig a hole at one end and pack under the other end with sand and stones with the help of a lever. I eventually reach the point near to its equilibrium and with one big effort it falls into the hole. I straighten it up and pack it around with sand and stones. My first "sculpture"? I have joined the history of producing cultural artefacts; a history which stretches back at least 30,000 years. From this point on I stop painting and start making things.

In his book "The language of Sculpture" Tucker tried to show the nature of the language that sculpture uses, through the study of a number of sculptors working at the end of the last, and the beginning of this, century.[2] Re-reading Tucker today I feel a certain nostalgia and whilst my own ideas have developed considerably since my first reading as a student, I am still struck by how influential Tucker was in affecting the way I began to look at sculpture. Tucker wrote very much from the standpoint of a working sculptor and his book is full of astute insights. In talking of Rodin he states that;

"If one compares , for example, the celebrated clay sketch models of Canova, the feeling is utterly different: in Canova the surface is brittle, torn, ragged, gouged-out, but, however loose, it remains a surface, a skin. In Rodin one senses the identity of external event with internal force: clay is felt as substance, not over the surface, but through every cubic inch of volume."[3]

It is passages such as these that make Tucker's book well worth reading.

But Tucker's analysis is limited in its scope. He concentrates his effort on an analysis of the awakening of the modern aesthetic and, in particular, the concept of the sculpture as object. Tucker begins his book with a quotation from Rilke, whose book on Rodin is one of the finest studies of a sculptor that I know, and this quotation is so pertinent that I take the liberty of repeating it here;

"Sculpture was a separate thing, as was the easel picture, but it did not require a wall like the picture. It did not even need a roof. It was an object that could exist for itself alone, and it was well to give it entirely the character of a complete thing about which one could walk, and which one could look at from all sides. And yet it had to distinguish itself somehow from other things, the ordinary things which everyone could touch. It had to be given its own certain place , in which no arbitrariness had placed it, and it must be intercalated in the silent continuance of space and its great laws. It had to be fitted into the space that surrounded it, as into a niche; its certainty, steadiness and loftiness did not spring from its significance but from its harmonious adjustment to the environment." [4]

Whilst acknowledging Tucker's contribution to my thinking, I should like to look at this language that is sculpture from a very different angle. Perhaps my approach owes something to Paul Klee who tried to define a kind of 'language' for art in his "Pedagogical Sketchbook".[5] As I should like to, Klee began with a number of fundamental elements in the language of art and made drawings to illustrate his topics.

His work is a mixture of logic, intuition, even play, and as Sibyl Moholy-Nagy states in her introduction;

"A mind so in flux, so sensitive to intuitive insights, could never write an academic textbook. All he could retain on paper were indications, hints, allusions, like the delicate color dots and line plays on his pictures." [6]

Now I should like to do something similar - although, as we shall see, my methodology is quite different - and that is to look at the basic elements which the language of sculpture, uses. Sculpture uses shape and form, line, direction, articulation, measure, scale, size, geometry, symmetry and many more elements in the language through which it communicates. Until the modern period one might say that a sculpture used all these elements in some combination, but, as we shall see, the tenets of modernism have been in part a kind of analysis of this language itself and in some modern sculpture one aspect of the language may be explored at the expense of others. We may understand this better if we look at these fundamental elements one by one. This may seem a rather laborious process and, indeed, seem unnecessary, as much of what I shall say here will seem to be so evident. It is, though, a necessary step, as it is on these basic building bricks that my later arguments shall be based. We must start with the real basic stuff of sculpture itself and to begin with we must make a distinction between the physical aspects of the language and those non-physical aspects from which meaning is constructed.

Chapter 2 The physical aspects

Material

" Many people cannot refrain from picking up stones of a slightly unusual color or shape and keeping them, without knowing why they do this. It is as if the stones held a living mystery that fascinates them. Men have collected stones since the beginning of time and have apparently assumed that certain ones were the containers of the life-force with all its mystery.....
.....For while the human being is as different as possible from a stone, yet man's innermost center is in a strange and special way akin to it (perhaps because the stone symbolizes mere existence at the farthest remove from the emotions, feelings, fantasies, and discursive thinking of ego-consciousness). In this case the stone symbolizes what is perhaps the simplest and deepest experience - the experience of something eternal that man can have in those moments when he feels immortal and unalterable." [7]

Sculpture is pervaded by its materiality. It is perhaps, at first sight, something of a paradox that sculpture, a language which one associates with the philosophical and spiritual should be a media that is so dependant on the material. Yet, it is this very paradox which is fundamental to the nature of sculpture. The language that a sculpture uses is communicated through its material. Thus it follows that in a piece of sculpture the nature of the material as unformed matter has a great influence on what is conveyed through it.

Different materials have different physical qualities in their un-worked states and these to some extent limit what can be made from them. A simple example would be the stone lintel of an arch. Once this lintel becomes too long and its centre of gravity becomes too far away from its two supporting uprights, the lintel will sag in the middle and break under its own weight. Such a lintel of steel may be much longer and would sag without breaking, or at the optimum length would eventually bow down and touch the ground at its centre.

It follows from this that some materials are more appropriate than others for certain kinds of sculptural communication and that the physical properties of the given material in a sculpture determine to a considerable extent what may, or may not, be communicated through it. In other words the material is not only that through which all must be conveyed, but it, itself, imposes certain limitations on what can be made from it, due to its inherent character. The sculptor must have a profound understanding of the nature of his materials and their limitations, and he must work with these limitations in his quest to invest them with meaning.

The materials used in sculpture have their own methodology of working. One must do things in a certain order, use the appropriate tools and obey certain rules. This is a logical process and one which cannot be ignored. Deviation from the logical working process which the material demands may result in damage to the tools, to the material and indeed to the sculptor. At the same time, whilst these processes are undoubtedly of a logical nature, the sculptor, or indeed the craftsman, obeys these rules and carries out these procedures without thought. They are second nature; logical processes which are employed without a great measure of conscious thought, having become part of the everyday practice of the sculptor through their employment over a long period of time.

In some modern sculpture the pushing of the limitations of the material itself has

become the main concern of the sculpture, or, as in the work of Ulrich Rückriem, the normal working processes determined by the nature of the material, have themselves become the subject of the works.

Traditionally the range of materials used in sculpture is fairly limited - stone, bronze, ceramic, wood, to name the main materials. As well as limitations imposed by the nature of the material itself, attitudes towards these materials have, at various times in the history of sculpture, affected what is made from them. In the case of stone and wood the sculptors of various cultures, at various times, have painted over the materials, thus denying their intrinsic character in favour of the sculpture's shape, form and their subsequent narrative. The Twentieth Century has favoured the idea of 'direct carving' in stone and wood in Europe - that is to say that the sculptor begins working with the material without precisely pre-determined plans - whereas in the previous centuries the final form would almost certainly have been pre-conceived in the form of a maquette or detailed drawings.

One may even talk of 'philosophies' of particular materials. Attitudes towards a material at various times have become so intimate to the material, that the material has been seen as having in it a kind of extant world view. One may recall Michelangelo's famous notion that blocks of stone already contain sculptures and the task of the sculptor is merely to cut away the un-needed parts of the block. Animist beliefs would have us believe in the spirit of a stone and even Christianity teaches us that God is everywhere. (This is probably an echo of such animism.) Modern physics also teaches that even inanimate stone contains energy fields. So we do tend to imbue materials with 'magical' qualities, which they may, or may not, have.

Modern thinking has added new materials to sculpture. The modern stance is such that any material may be used for making sculpture; that sculpture is rather an attitude towards form and objects, than something traditionally based in a particular material. Sculpture may, according to the modern position be made from plastic, found materials, crushed cars, even from other objects taken out of their normal context - for example furniture, which seems to have been popular in the last few years. (Some of Tony Cragg's works serve as an example). New materials have been popular recently, specifically because they have no history. The search for newness that is one of the tenets of modernism has, therefore, tended to favour materials with no 'art' connotations. This at the expense of value engendered by association with the historical use in sculpture of the traditional materials.

These new materials would not be so problematic if the concerns expressed in such sculptures that are made of them were to be similar to the traditional concerns of sculpture. In sculptures such as 'Through' of 1965 and 'Genghis Khan' of 1963, Phillip King made some astonishing sculptures out of fibre-glass. Whilst the material was relatively new to sculpture, the 'language' that King used was thousands of years old and these works were entirely convincing, despite the rather dead surface caused by the nature of the material. In hindsight such works seem classical and of the highest order. At the time they seemed excitingly new, but even then, the tenets of the language within which they came in to being, spoke of their relation to the ancient language of sculpture. The materials were new but the concepts which they encoded were 'as old as the hills', as they say. This was 'new' sculpture at its best. In many other cases use of new materials has not been related to the tenets of the language of sculpture, but has tried to overthrow not only the traditional materials of sculpture, but also the language in which it is based and dependent upon to convey its meaning. In such cases the situation has arisen where some modern sculpture can only claim the appellation 'sculpture' through

the context of where it is seen. (See 'Environment'). In other words the material presence of the 'sculpture', does not denote it as such. *

Whilst material is paramount in sculpture, it is possible to 'hide' the nature of the material. I have mentioned paint, as one obvious example, but their are other ways of negating the material and this too depends on one's philosophical stance towards the materials. Whilst in Rückriem's work one is so aware of the material as stone, other sculptors have worked with stone in a way in which the quality of the material is almost totally negated in the quest to create illusion. Here much 19th Century English and French marble sculpture springs to mind in which the material has been polished all over, and to such an extent that it has lost all sense of stoniness and rather resembles a kind of sugary soap. One of Michelangelo's greatest contributions to the language of sculpture was, to my mind, the way in which he mixed the polished and the roughly-worked parts of the material. The outer extremes of a limb will be tight and polished, whilst the slack parts of the form will be left with chisel marks intact, thus creating a real sense of form, through an illusion of tense and relaxed material. In his best works he, thus, exploited the material to its full.

Before I go on to look at how the sculptural language 'arranges' material, there is one further aspect of material that we must note. Materials in sculpture may be classified into three groups - those which are essentially subtractive, those which are essentially additive and those which are constructable. One may build with stone and wood and in this sense they are constructable materials. However, the working of individual blocks of them is a subtractive process, that is to say that one cuts or carves them - subtractively shapes them to their required form. Clay and plaster are additive materials. They have no inherent shape when one begins to work with them and the process of working them is essentially additive. (Here again, one must not rule out the possibility of someone casting or forming a block from them and then carving away the unwanted matter. This, although possible, is essentially alien to their nature as material.) Bronze sculpture although formed from molten metal is dependant on original forms and moulds and these original forms and their moulds are usually formed from clay, plaster, sand and wax in an additive way. Metals may be constructed with in their cold states. In fact construction, as a method of making sculpture, may employ any material. Construction in sculpture has gained particular prevalence in the Twentieth Century and this may be considered to be the major legacy of the modern movement to the language of sculpture. The often fragmentary nature of constructed sculpture would seem to be pertinent to the fragmentary nature of our contemporary society and, indeed, the contemporary psyche. These three procedural methods - the carved, the modelled and the constructed - are basic to sculpture and, with the exception of construction, are determined by the nature of the materials.

I have suggested that materials may have their own philosophy. Tied to this is a notion of the ethics of materials and these ethics are surely time-bound. Ethical attitudes to materials certainly exist, but they tend to change in different ages. Our ethics today are basically those of 'truth to materials'. What this means is that we try to use the material in ways that it, itself, dictates. Generally speaking we do not try to use the material in a way which is alien to its nature. We respect the inherent qualities of the material and try to make sculptures in which the materiality of the material is presented as it is. The material is not made to look like something that it is not and the image that we make aspires to accept the nature of the material which carries it. Having said that, there are always exceptions to the rule and there are certain sculptors whose work is

* This theme is developed more fully in Part 3, in 'Carl Andre and 'The Bricks'.'

motivated by a desire to make the materials appear to be other than they are. For example, I know a number of sculptors working in Carrara who try to make marble look like cloth. They go to extremes to make an illusion that the marble that they are using should not appear to be marble. They totally negate the essence of the material and make magical tricks of illusion, just as the conjuror does as he pulls the rabbit out of the empty hat. The problem with tricks is that once you see how they work, they have already lost their magic. The use of materials in this tricky way, with one or two notable exceptions, generally leads to a kind of meaningless kitsch. (I have, here, perhaps revealed my own prejudices with regard to materials).

It may seem that I have over emphasised the importance of material, but ultimately there is nothing else. The material is the stuff of sculpture. It must carry the shapes and lines and forms. It must carry the meaning. The entire language of sculpture is dependant upon the rapport of the sculptor with his material. The degree of success of this rapport determines the meaning and value of the sculpture.

I have tried to show that the material is that through which all must ultimately be stated. Now we must look at the way in which the material is manipulated in sculpture, and the way in which a sculpture's ability to encode meaning, is determined.

Surface

When we look at a sculpture we see only the surface of the material. Its forms, lines, contours, shapes are all conveyed on its surface. We may be able to see through the sculpture, through holes or spaces in its forms, but what we actually see is the surface of the inside of the hole. We do not, indeed cannot, see the inside of the material with the naked eye. Thus surface is paramount in communicating the sculpture's message.

The surface determines the speed with which our eye roves around the sculpture. Rough, indented parts slow down our eye, catch our interest, whilst smooth, polished surfaces rush our gaze to another area of the work. Our eye subliminally caresses the work and arouses our sense of touch.

The surface may reveal much about the physical qualities of the material itself. A rough hewn stone surface will give a much greater feel of the hard, rugged, crystalline nature of the material than a smooth highly polished stone surface, which rather emphasises the stone's colour and may, indeed, reflect light from the surroundings. A rusty surface of a steel sculpture will tell more of the steel's hardness and weight than an over-painted steel surface. (In this case the paint itself is the surface). The patination on a bronze sculpture serves to cover the marks left by the fettling tools - the chisel, rasp and polisher - which leave some parts of the work abrased and others in the original rough-bronze post-casting state. Its colour variations also catch the eye and slow down, or hasten its journey around the surface. Bronze may also have a completely polished surface so that it becomes like a mirror, distorting the reflection of the surrounding environment according to its form.

When stone is polished its surface undergoes not only a physical, but also a chemical change in the immediate area under its new skin. Bronze and steel surfaces may also change chemically under certain treatments.

Surface is important to our sense of touch. Tucker spoke in his seminars of 'touching with the eyes'. What he meant was that when we actually touch the surface of a sculpture it is usually disappointing - its surface will probably be physically cold and hard. Our eye 'touches' the surface as it roams across it and creates an illusion of

touching - some parts may appear soft and warm, others rough and cold. Our eye actually works in a way that is a substitute for actual physical touching. Actual touching with the hand will usually contradict this illusion of surface.

I have often heard sculptors referring to surfaces as 'skins'. The implication in this is that the surface is an outside, or a shell, which holds something within it. The surface must 'carry' the form within it. The surface must reveal the nature of the forms it contains. If not enough attention is given to it by the sculptor, the surface can destroy form, as in the case of the over-polished surface of much 19th Century marble sculpture, mentioned above.

If the material is the matter through which all must be conveyed, the surface is everything that we actually, physically see.

Line

Line can have an important role in sculpture in creating direction. Our watching eye shoots along straight lines, but in sculpture line is so often really edge - a meeting of two planes - as we are in three dimensions.

Line is important as outline. As we move around a sculpture our eye sees ever changing outlines, or contours of forms. This is the "drawing" in the sculpture.

Edges meet, change direction and this affects the way our eye moves over the sculpture. Some recent sculpture has used line to such a degree that the sculpture is a collection of lines in space - it is all line. [8]

I am gazing out of the window and looking at my neighbour's roof. The sun is above the roof. The roof tiles are arranged so that the bottom of a row of tiles covers the top part of the row beneath. The sun casts a shadow at this junction. My eye reads this as a line, although this is merely a series of shadows of differing intensities. The contours of the shadows are irregular and yet I still read this as a straight line."

Our eye and brain like lines - they see them where there are none. That is to say that our vision has a volition to classify what we see into an order of lines and shapes. This is a trick of the system, for real lines are much more rare than we realise. [†] What we usually think of as line is merely the meeting of visual fields - the classic example would be the horizon line, where the sky meets the sea. The horizon line is an illusion, but one which we really do perceive and experience. The 'outline' of a sculpture is also an illusion of line, dependent entirely on where we stand in relation to the sculpture. The slightest movement on our part will change the outline. What the 'outline' really is, is one immaterial, (but actually seen), contour-line running over the surface of the forms. In sculpture then true lines are usually edges, unless the sculptor has consciously made them a major element of the work, as in Barbara Hepworth's stringed sculptures. Otherwise lines, unless they are physically engraved on the surfaces, are illusions and will hinder our 'reading' of the work if we pay too much attention to them.

[†] This is a theme I shall be developing later on.

Plane

Planes are flat surfaces, although in sculpture they need not be perfectly so. An approximation to flatness is implied but may be directly manipulated for reasons outlined in 'Surface'. A plane may be a rather uninteresting area in a sculpture - something that in many works might appear at the back, in a relatively 'unseen' area. It might also have a crucial role. Modern sculpture, like modern architecture has given the plane a new status and it has an essential role in much steel sculpture. [9] New materials such as thin sheet steel have allowed the use of bent planes in sculpture. [10] Here the plane is not a surface on the outside of a volume or form, but an element in its own right - a twisted, flat, volumeless area. Like line it has become to be used in its own right as the syntax of certain sculptures.

Planes may take on the role of 'cuts'. Imagine an egg-like form and cut a part away from it. The result is a dismembered egg - a form with a plane that cuts it. In such cases the plane ends the form but implies the continuance of that form beyond the cut. A flat plane will always abruptly 'end' a form in this way.

Sculptures may be made of a series of interrelated planes. In such cases different planes seem to have an equal status, despite their difference in size. Imagine a brick. The six planes of its surface vary in size. There are three different sizes appearing twice each. Despite this difference in size the status of each plane within the configuration of the brick is the same. The planes all, equally, reject our eye from seeing form within them. The eye and brain never really know whether a brick is hollow or solid, although they 'believe' that the later is true. The lack of articulation of the planes is responsible for this effect. A plane reveals nothing of what is beneath it and, unless it is a mirror, over it.

Horizontal planes equate to the earth.

Shape

"Shape without form, shade without colour,
Paralysed force, gesture without motion;" [11]

If I had talked about "shape" as an element in sculpture a hundred years ago it probably would have seemed not only a strange word to use, but also an insulting one to the creator of the sculpture in question. Shape is something two-dimensional, for example a flat triangle or, indeed, an irregular shape, but flat. Sculpture is three dimensional and thus I would have used the words "volume", or better still "form". However, new materials and in particularly the use of steel in sculpture, have allowed for the development of shape as a basic element in the language of sculpture. Whereas carved and modelled sculpture was essentially form-based, the newer forms of modernism are often constructed and essentially flat. This then allows for a notion of shape as opposed to form, and plane as opposed to modelled surface. Shapes may be cut from steel plate which have such minimal thickness as to be, visually at least, shapes without volume or form. [12] These may not have the horror implied in the lines from Eliot, quoted above. Phillip King's Genghis Khan is an excellent example, for whilst the cone-like part of the sculpture, certainly, may be said to have volume, the two vertical

leaf-like parts are shapes - that is to say, that although they have minimal articulation and are not thus entirely flat, one reads them despite this, frontally at least, as shapes. Unlike forms, they do not develop as one changes ones position in regard to the sculpture.

Gravity and Weight

Sculpture is bounded by those physical laws which govern the behaviour of all matter. What Einstein established in relation to matter and energy is just as pertinent to a piece of sculpture as to any other object or material in the world. The same particle theory - or lack of it, for Einstein replaced the idea of particle physics with that of events related by interval - bounds sculpture, and the same laws of space, energy and gravity.

These physical laws of nature govern sculpture as they do all objects in the world. Whilst the majority of these have little visual role in sculpture as a language, gravity - or rather a sense of gravity - does. Sculptures are bound to the earth by gravity, as are all objects, and the way in which a sculpture 'meets' the ground is of considerable importance to the meaning it conveys. We can perhaps understand this better by comparing Rodin's figure of 'Balzac' with his sculpture 'The kiss'. Whilst 'The Kiss' sits heavily on the ground and is rather a lumpen mass, 'Balzac' thrusts out of it at a precarious angle. It is an essentially phallic sculpture and it plays on our intuitive sense of gravity, its mass, leaning as it does away from the vertical, creating its sense of energetic force. Some modern sculpture, such as Phillip King's "Tracer" of 1977, appear to defy gravity through a visual illusion that the work is toppling over.

Coupled to gravity is the notion of weight and implied in this, monumentality. Some sculptures look incredibly heavy, and often they are. There are those sculptures which play on this illusion of weight and their visual weight seems heavier than their actual physical weight. Again Rodin's Balzac is a case in point and Phillip King produced a series of works in the late 70's, of which Shiva's Rings of 1978 is a good example, in which the elements of the sculpture are articulated in such a way that they seem to be involved in a kind of wrestling match with each other. The visual weight of some of the elements in Shiva's Rings far outweigh their actual weight. They appear to be of immeasurable weight, as if the sculpture is making visible gravity itself.

The opposite effect is also possible. Elements in sculpture may give the illusion of being weightless. Here some of the works of Anthony Caro spring to mind and in particular, Month of May of 1963, in which some of the steel elements seem to float weightlessly in space, as is true of the horizontal bars in Prairie of 1967. Of this work Michael Fried says that it;

"goes further towards completely revoking the ordinary conditions of physicality than any other sculpture in Caro's oeuvre. *In the grip of the piece one's conviction is that the horizontal poles and corrugated sheet are suspended, as if in the absence of gravity, at different levels above the ground. Though once again this is done, not by hiding the physical means by which these elements are supported from below, and thereby seeming literally to suspend them in mid-air, but by acknowledging the means of support in such a way as to accomplish the abstract suspension not just of the elements in question but of gravity itself. The result, as in other sculptures by Caro, is something deeper, more radical, more abstract than illusion."* [13]

Scale

All objects have size and their sizes are measurable. Scale is different. Scale, as I wish it to be understood here is a relationship of the size of an object to our size as human beings. A sculpture that is of a height higher then our size will appear monumental. It is something greater than us and provided its 'bones' are well jointed it will have an effect on us of power. A tiny sculpture that fits into our hand may also have this power - it too may have an impressive scale. In this case our eye behaves something like the change of lenses on a camera from normal to macro. Our sense of our body scales itself down to this tiny object and like some small ant our senses creep into its macrocosm. The in-between size is more difficult to react to. A sculpture the size of, say, a chair, (or indeed a chair itself), does not invite such a strong physical empathy within us as a very large or very small one.

The reason for this is partly to do with 'monumentality' and partly to do with the object's - in this case the sculpture's - own internal scale, and this is the second type of scale which may also be called proportion. When looking at the internal scale or proportions of a sculpture larger than ourselves we empathetically increase our size to these giant-like relationships, whilst ever aware of our own real size. With a tiny sculpture we empathetically diminish our size to a size smaller than the sculpture, whilst again remaining aware of our real size. The middle-size sculpture is not impressive to our intuitive sense of the monumental, (and here I wish to imply the monumentality of the small sculpture too). It is pervaded by that reality common to most everyday objects and we dwell rather on its own internal scale.

Now all objects have internal scale. We may, also, be impressed by the power of some giant machine and we might, too, find a kind of monumentality in a tiny pebble. So what differentiates scale in sculpture to that of, say, a giant bulldozer. The scale of the bulldozer is a result of its function as a mover of large amounts of earth or rock. The scale of the sculpture is also determined by its function and so it may appear that the difference is only in the nature of the function itself. Yet, I think not. Scale in sculpture has a vital role in communication and has subtle facets and nuances which do not help at all in looking at a bulldozer. In the bulldozer the internal scale of the machine is a direct result of its functioning as an earth mover, in the same way as is its large size. In a sculpture the internal scale is a signifier. It forms an integral part of the language of sculptural communication. It is intentional, but for intellectual, rather than physical ends. Whilst the bulldozer's internal scale is not determined on a visual basis, the internal scale of a sculpture is, and this scale is a part of its language and function.

"*Monumentality is not a function of size. Not everything large in scale is monumental, nor is the small necessarily a miniature in effect. Monumentality is a rhythm embedded in the interrelationship of forms. Of course an authentically monumental piece of sculpture that is enlarged only gains in impact. Enlarged, it becomes expressive. But we can see the same principle and melody at work in a small bronze sculpture. It is as if a small-scale model of a monumental sculpture genetically embodies all the elements of its counterpart, and* vice versa. *There are sculptors who work well only on a small scale. it is absolutely impossible to enlarge their works and transform them into monuments.*" [14])

If we look at Reg Butler's model for a Monument to an Unknown Political Prisoner of 1951-2 the work has a great sense of scale. It is small - it is, of course, a model for a large monument - and its internal scale implies this gigantic size, partly, it is true,

because of the small figures included to establish an exact size, but also because the 'rock' on which the metal construction stands appears almost to represent the whole earth itself - some massive mountain to which the sculpture is clamped. This work has a sense of monumentality directed and implied by scaled relationships between base, sculpture and figure. This we relate, in turn, to our own size.

The Venus of Willendorf also has a kind of monumentality. It would be absurd to blow it up into a larger size. Its integrity relies on the way in which it may literally, or in the imagination, fit into one's hand. Its internal relationships imbue it with a tremendous force, which we feel to be, literally, graspable. Its physicality is far greater than its size. It too, in another way, may be felt to be monumental.

Structure & Geometry

Structure may mean how a sculpture is physically joined together, as in a constructed steel sculpture. It is also the over-all organisation of the planes, lines, shapes and material. All sculptures of any worth have a structure underlying them, which may, or may not, be obviously visible. Michelangelo's pietas have the underlying structure of a triangle or a series of interlocking triangles, a device also favoured in the Madonnas painted by Leonardo da Vinci and, indeed, in much Renaissance painting and sculpture. Piero Della Francesca actually produced a number of treatise on the subject of mathematical structure in art. In European sculpture since the classical Greek period this structure has often been based on the geometry of Euclid, as in Michelangelo's case. The Golden Section is another Greek measure that appears over and over again, although its uses may in many cases be subliminal, rather than intentional. [15] It may even be argued that Euclidean geometry has become so much a part of our thinking that it conditions how we look and see.

There are, however, many other structural systems used in sculpture which do not particularly use geometry in this Euclidean sense. Some sculptures may employ a kind of rigid symmetry, as in much Egyptian sculpture. Here any sense of internal geometrical relationships is replaced by a kind of overall stasis of symmetry. The Egyptian granite sculptures generally have a tremendous stillness, a heaviness and a serious almost over-bearing physical presence, all of which results from the complete lack of animated articulation. The figures are frontal and geometrical only in the sense that they hardly break away from the rectangularity of the block from which they were carved. I can think of no other world-culture's sculpture whose tenets are so far removed from the tradition of European sculpture, this latter dependent, as it is, on geometric and rhythmical relationships as a mainstay of its expressive language.

Traditionally European sculpture's sense of structure has been based on the actual structure of the human body. That is to say that the sculpture has had a structure whose origin ultimately lies within the anatomical structure of its model. In various periods of European sculpture differing notions of compositional structure have been favoured and these are usually in some way geometrically based.

Some sculpture may be regarded as a series of "events" strung along a central spine - for example some of the work of David Smith and Anthony Caro - and such work is without geometry, although it has structure. Other of Caro's works seem to have no structure at all and in sculptures such as Blue Blaze of 1969 and Call of 1967 Phillip King has demolished all notion of structure and, indeed, the object. In these cases the

sculptures are made of different elements arranged disconnectedly in space. The viewer walks through and around a series of events that are related marginally; in the first case by colour, and by colour and, to some extent, similarity of forms between the elements, in the second case. This concept of sculpture without an object, and, thus, without true structure, proved to be an untenable position towards sculpture and one from which King soon stepped back. Kudielka commented thus;

"The true implications of dispensing with the self-sufficiency of the object and opening up the structure of sculpture are too fundamental to be masked by a simple formal strategy. They challenge a concept of making *which is inherent in our civilisation and therefore permeates the human beings we have become. Far from being merely a sculptural notion, the monolith expresses man's intention to assert himself over the earth and take possession of it;"* [16]

Articulation

A sculpture that stands upright - that is to say that it is higher than it is broader - confronts us. It is perhaps rather static. It is masculine in its penis-like quality. It may be threatening in its monumentality. It is a favourite form in sculptures which represent civic power. It stands.

A lying sculpture is passive. It may have associations of death. It is generally calm.

A sculpture which leans at an angle to the ground is super-active. It will probably appear unstable and rather dangerous. It will probably appear to threaten.

These are some ideas of what I mean by articulation. It is an articulation of the surrounding space by the sculpture, which has a profound effect on the way we view it. Articulation may also be the articulation of forms and volumes, matter and space within the sculpture. It may be simple or complex. *(See 'interval').*

Form

Form is a word much used when talking about sculpture and it requires considerable attention. A form is a realised mass, a mass that has been organised with attention to surface, contour, shape etc. It is a transformed mass of material. It has been formed from an inert lump of stuff.

We can argue about forms being satisfactory or unsatisfactory, so that the act of forming in itself does not guarantee a realised form per se. Indeed, when we talk about form in sculpture we imply such a value judgement in the way in which we use the word. The success of forms must be judged as a group of masses interrelating and relating to the whole object. One successful form in a sculpture is not much use if it has not been interwoven as an integral part of the whole.

I have already said that when we look at a sculpture all that we literally see is the surface. So with a form - we see only its surface. It has been formed from the outside by the hands of the sculptor, but if it is to be convincing, I believe, it must create the illusion that it has been formed from within - it must look as though there is an energy within, which is pushing to its surface, an energy which gives that shape to the form which our eyes see as they run over its surface.

So what is the nature of the value judgement we imply when we use the word form in relation to sculpture. The answer may be the subject of a whole book itself, for form, and various ideas of it, have occupied philosophers for thousands of years. One may recall that Plato spoke of each thing having an ideal form made by God. All beds have a common idea, but there is only one real bed to which our idea of bed owes existence and that is the ideal form of the bed. Clearly such thinking is not particularly useful in our understanding of the notion of form in sculpture.

Parts of Aristotle's theory of forms are more useful.

"We may start with a marble statue; here marble is the matter, while the shape conferred by the sculptor is the form. Or, to take Aristotle's examples, if a man makes a bronze sphere, bronze is the matter, and sphericity is the form; while in the case of a calm sea, water is the matter and smoothness is the form." .....
....."It would seem, then, that 'form' is what gives unity to a portion of matter, and that this unity is usually, if not always, teleological." [17]

These ideas of Aristotle's are the basis of what I think to be true about form. Nevertheless Aristotle's theory of forms went much further than this and it is here that I find difficulty in agreeing with him. Of course Aristotle was regarding form as a philosopher and his theory, as with Plato's, was intended to cover all form. When we refer to form in talking about sculpture we use the word in the sense of man-made form, or formed-matter. For sculpture the sea has no form. Otherwise the notion of form as realised matter may well be seen to have its origins in Aristotle. But form, as the word is used in talking about sculpture, is much more than this, as I have already suggested.

The value judgement implied when we talk of a sculpture having form is a thorny question. Do we mean, merely, that the forms of the sculpture are realised and cohere together in a way that is individually pleasing to us, or is there some common ground for our evaluation of form. It is a question that I shall return to many times during the course of this text. So for the moment we must leave 'form' as a physical entity of worked matter; matter that is worked into a relationship to the other forms around it in the sculpture, and implicit in this, into a relationship with the whole.

Interval

Sculpture is worked mass in space. It always affects the space immediately around it and indeed may be itself affected by its environment. Within the sculpture there are a collection of forms, shapes, volumes, edges, etc. These are arranged in space by interval. Many sculptures also have spaces or holes between the elements and we then have an interplay of filled and empty space. This arrangement is again interval. Interval in sculpture is, then, the arrangement of matter in space and in time, and the relationship of this matter to the space within, and around, the sculpture.

The interval between filled mass and space, between collections of shapes and lines, and between form and form, in sculpture, is analogous to the interval that is a basic part of the language of music. Just as rhythm in music is determined by interval, so is it in sculpture.

Eye

Forms, lines, indeed everything in a sculpture, might be measured scientifically when it is being made. Some sculptors prefer to use geometry as the be all and end all of their artistic effort. A ball, or pyramid may be formed by exact measurement, or it may be formed by eye. The eye has a degree of tolerance that mathematical measurement aspires to negate. We can make a ball, or pyramid (or indeed any shape or form) by the measurement of our eye. We may perfect its shape until our eye accepts it as a ball, or pyramid. Mathematical measurement, if then applied, will invariably show the shape to be mathematically incorrect. The eye can of course be trained in making such judgements and may become more and more refined. 'Eye' may be regarded as a degree of tolerance.

'Eye' is also important in distortion. Sculptures which are exact measured replicas of a human being will look silly if placed high up on the facade of a cathedral. Their proportions will look wrong because no account has been taken of 'eye' and the way it sees and relates things to the body to which it belongs. (See Scale).

Light

Light reveals sculpture. The artificial light of museums may deny this aspect of a sculpture - light and shadow in a constantly changing play across the surfaces and forms. Light models surfaces. It may rebound off a polished surface, or be sucked into a rough one. The sculptor must be aware of it, but cannot plan for its visual effects, except in the case of a fixed public work.

In England we usually have dark grey skies with a very clear, heavy kind of light, which defines form. In the Mediterranean countries light tends to dissolve form.

Some modern sculpture uses artificial light as its main component. [18]

Environment

It is 1989. I, and a large group of sculptors from around the world have been invited to Burkina Faso to carve natural outcrops of granite. We visit the north of the country and see ancient line drawings scratched in the granite. Like these, our works will probably last for thousands of years.

It is March 1996. I have just returned from Finland and Sweden, where we have been making ice and snow sculptures. The ice we cut out from the sea with chain saws and built the work on the sea - part going up, part going down. They will probably melt by the second half of April, if not before.

The environment that a sculpture is seen in is of paramount importance to our understanding of it. Traditionally salon sculpture was set on a pedestal to 'remove' it from the real world of other objects, to set it apart, and thus to enforce its visibility as sculpture. When Anthony Caro began to make works that stood on, or rather spread across, the floor, it was as if sculpture had joined the real world of ordinary objects. It

now stood in the same space as a chair. But, of course, it did not really. These sculptures were again set apart by where, and how, they were seen. Presented in galleries and museums these works were 'seen' in a certain way because of the context in which they were shown. The importance of this context will become apparent when we view the work of the sculptor Carl Andre, whose stacks of bricks and 'floors' of steel plates could not be distinguishable as sculpture if seen in a brick yard, or scrap yard, respectively.

Constantin Brancusi was renowned for his carved bases and often it is difficult to decide what is sculpture and what is base. Indeed the two are so integral that they work as one thing. Here, of course, Brancusi was quite intentional. He wanted his works to be seen at a certain height and in a certain way, i.e. he wished to control as much as possible the environment in which his works would be seen as they travelled out of his studio to various museums and galleries around the world. He would have no control over the space or lighting, but as far as possible the works would be seen as he wished.

The environment of the sculpture is of course of paramount importance in public sculpture. The relationship of the work to the extant buildings, public spaces etc. is an integral part of the planning of the sculpture. The sculptor will probably have taken into account the movement of the sun, the lighting during hours of darkness, the movement of the public in relation to the work and many other considerations. Like Brancusi, the public sculptor only has a certain amount of control. Buildings may be destroyed around the work, trees will grow. Urban development may alter the flow of traffic and pedestrian movement. The sculpture may stand the test of time and stay or it may be removed to another place, or even destroyed. There is no doubt that a successfully placed public sculpture may be ruined by development around it. Its relationship to its environment is crucial in our appreciation of it, but the control of the sculptor ends once it is emplaced. I often think that good public sculpture should not shout out for attention. It should be there and even if very large it should be of a quiet, calm nature. It will be passed by some people everyday and they may not take particular notice of it, except subliminally. It fits into its space in a natural kind of way. If, however, it is removed it will be missed. There will be a hole in the environment and it will be remembered lovingly, probably just by those people who never took much notice of it. That is what I mean by a sculpture's relationship to its environment.

Some sculpture, in recent years, has taken the environment itself as a starting point. I am thinking here of 'Land Art'. The so-called land art sculptors tend to make their works in the landscape. The work usually has an integral relationship with the environment and often, but not necessarily, will use materials found on or near the site. The work taken out of context and put into a museum will have a totally different meaning, (vis-á-vis Richard Long's works inside and outside). Some of these works actually deal with the ecology of the site, others may just use aspects of the site, for example water running through the work. (See the catalogue of David Nash's work in Japan 1984). Some works, by their nature, purport to symbolism - Robert Smithson's 'spiral Jetty', which reminds me so much, in spirit at least, of the Cerne Abbas Giant. These artists have taken the relation of the sculpture and its environment to an extreme position. There is a strong dose of romanticism in this approach. An intervention is made in the landscape which may or may not be of a lasting nature.

I shall be returning to the question of environment again at a later stage and in another context. Here I wish merely to reaffirm that the environment in which a sculpture is seen is crucial to our appreciation of it, and here 'environment' not only means the physical environment - the lighting conditions, space etc. - but also the 'intellectual' environment, whether the work is in a gallery/museum, public place,

artist's studio, the landscape or elsewhere. These environments must surely affect the way we view the work.

Movement

Movement in sculpture may be implied or actual. The bronze Charioteer of Delphi has implied movement, as do Degas' dancers and Rodin's 'Iris'. This 'movement' may be active or passive. Let us compare two Degas sculptures - the first is 'Dancer, arabesque on the right leg' of 1882-95 and the second the 'Little dancer' in the Tate Gallery, London. The latter shows a moment of rest during the active process of ballet dancing, whilst the former 'freezes' an active moment in time. In the former ballet step the dancer will indeed hold this position in rest for a fraction of time. It is a moment of extreme balance in which straining muscles give the illusion of restful calm. This illusion is captured in the sculpture too and one awaits the moment when this poise is broken and the dancer moves to another position. In the sculpture one wonders, too, at the delicate physical balance - as if the sculpture will fall at any moment. The Tate's dancer alludes to a moment when she is in a position of unstrained rest, a pose perhaps taken by a dancer whilst a soloist actively leaps around her. One may be inclined to compare this to the captured moment of a photograph, but it is not the same. The sculptor may telescope a series of movements into one state, a state that never really actually occurs. (I remember gazing for hours at the Charioteer of Delphi. Something bugged me about its posture and after about three hours of looking I realised that the figure is not standing in 'one position', but in a 'series of positions' at the same time.)

George Rickey and Alexander Calder use real movement in their works. Heavy elements of steel are moved by the wind.

There is another kind of movement pertinent to sculpture and that is the movement of the spectator around the work. This may also be controlled to some extent by the sculptor. In much traditional sculpture the work is frontal - that is to say that there is a directed frontal view and in moving around to the sides or back the viewer learns nothing new. The side and back views merely confirm the front view. Rosalind Krauss writes brilliantly on the subject and points out how in much modern work this has been replaced by a central spine around which 'activity' occurs. Moving around it, the sculpture slowly unfolds its nature in time. [19]

Time

Coupled to the idea of implied movement in sculpture is the notion of time. Sculpture which does not actually move may be regarded as a fixed moment in time. Even an ice sculpture which has built into it the notion of change and decay, will probably not change significantly during a short period of viewing, even though new snow may gradually be deposited on it, or though it may be actively melting. Some land art works also have a built in transience, but generally speaking sculpture has, traditionally at least, been regarded as a defiance in the face of the changes caused by the passing of time. Egyptian and Greek stone sculptures have stood for thousands of years, defiant witnesses against erosion and damage. However, what we see is not the

same as that which we would have seen when the works were first made. Anyone visiting the Parthenon Museum in Athens will be aware that what we now consider to be gleaming white Greek marble sculptures, were once painted, and in a style that uses gaudy colours somewhat reminiscent of the carved wooden figures one used to see in fair grounds around England.

Having said this, our confrontation with a sculpture is usually of a short nature and we tend to view its objectness - we look at is as a fixed object. It may contain clues as to how it came into being over a period of time and it may, as in the case of our ice sculpture, suggest to us how it will eventually be destroyed as time passes, But our meeting with the sculpture will probably, on a conceptual level at least, be an event whose duration is of a fixed time. We may visit the sculpture again and again over the years and generally speaking, if it is well looked after, it will not have physically changed a great deal.

We, however may have changed. Many important events may have occurred in our lives which have changed our thinking. We may, in the light of these, view the sculpture in quite a different way. For looking at sculpture is a two way process. It is both that which is extant in the sculpture and that which we take to it, which combine to cause our response. As John Berger puts it in writing about painting;

"Paintings are static. The uniqueness of the experience of looking at a painting repeatedly - over a period of days or years - is that, in the midst of flux, the image remains changeless. Of course the significance of the image may change, as a result of either historical or personal developments, but what is depicted is unchanging: the same milk flowing from the same jug, the waves on the sea with exactly the same formation unbroken, the smile and the face which have not altered." [20]

I invite you to replace Berger's "Paintings" with the word "Sculptures".

Having said this we must also consider that our viewing of a work of sculpture takes place over a period of time. This time is not of a fixed period as, say, when we view a film. The sculpture reveals its messages to us over a period of time. Our reaction to its physical intervals unfold over time. The relationship of a sculpture to time is, therefore, extremely complex. In moments of self-consciousness during our viewing of it we are aware of the time of our own act of viewing, and yet the sculpture may encode notions of infinite time. It may encode concepts of time which are both transient and everlasting.

Chapter 3 The creation of meaning

I have tried, so far to describe the language of sculpture in its physical aspects - those aspects which form sculpture's physical substratum. Discussion of many of them will be continued in the pages that follow. Before we continue and look at those aspects which are tied to its intellectual and spiritual aspects - to 'what' and 'how' it communicates, as opposed to 'with what' - we must accept that the physical elements are also fundamental to our appreciation of not only sculpture, but of all other objects too.

Let us return to our 'chair'. The elements of sculpture's language as I have described them above are not unique to sculpture. They are qualities which our chair also has and indeed they are qualities that all objects have in some degree or the other. Our chair has material, surface, line, plane and shape. So does a tree. What I have described here is not a language which is unique to sculpture, but a language that is a product of our capacity to visually evaluate the world. So if our sculpture is made to be more visible than other objects, what linguistic elements does it have, if any, which are not common to those other objects?

To put the problem another way we may consider these elements of sculpture's language which I have so far described as being the 'physical' or 'formal' aspects of sculpture. The sculptor, (and indeed the viewer), may learn much about this formal language by studying those formal conventions adopted by other sculptors in other periods and in other places. He will also, probably, adopt or adapt these conventions in a particular way, and this is the basis of individual or collective style. Much modern sculpture has paid particular attention to the formal aspects of sculptural language, but even in the case of the most purely Formalist works their construction of meaning is not a question of the merely physical. It is possible for the viewer to react to a Formalist sculpture as something which is simply harmonically pleasing, but even this reaction is of an extremely complicated nature and a reaction which is not purely of a physical nature.

The relationships which a sculpture physically embodies invariably allude to something else. They are configured in such a way as to convey meaning on an intellectual and/or spiritual level. It is the complex way in which such meaning is constructed, which is my concern in this text. The physical properties of a piece of sculpture affect us in ways which are dependant on our own physical and mental make-up. The endeavour of the sculptor may be described as that of finding the right physical equation of form, line, shape, material etc. to control the intellectual, emotional, or spiritual reaction of the viewer. As we shall see the matter is made even more complicated by the fact that such meaning is not constructed on the basis of a series of simple pre-determined recipes. Sculpture, at its profoundest level, does not merely illustrate an idea, or tell a story. Its evaluation involves mechanisms which we do not properly understand. We may, until the workings of the brain and mind are better understood, only offer suggestions as to how this mysterious process may work.

I should like to begin my own thesis of meaning in sculpture by introducing some of those aspects of sculpture which do not belong only to its physical realm. I shall, later, endeavour to suggest the mechanisms which may be responsible for these non-physical reactions to sculpture.

Allusion

I propose that the basis of way in which meaning is constructed in the language of sculpture is that of allusion. A chair does not allude to anything. It is an object determined by function, which may or may not involve a measure of aesthetic merit. It may be beautiful, but before all else it is determined by its function as a repository for bottoms. The forms of a sculpture are, on the other hand, determined by what it is to which they allude. They are as they are, not only for consideration in themselves, however interesting, however harmonious, however aesthetically pleasing they may be, but also they are as they are because of their ability to allude to something else. In the case of much sculpture this may seem obvious as the physical matter of the sculpture alludes to a figure or figures seemingly involved in an event and this event, in turn, alludes to some aspect of our own being and experience.

The case of abstract sculpture is more difficult, for here the sculpture would seem to represent a set of relationships which either are, or are not, pleasing to our aesthetic sense. But I hope to show that even in the case of the purist Formalist sculpture the forms together make an image which alludes to an aesthetic sense which is based in aspects of our own being. In other words our reaction to a set of formal relationships is tempered by our accrued experience acquired over time in the course of our own existence.

Having said this, there is one kind of reaction to sculpture in which any sense of allusion is suspended and this is that sublime reaction which we so rarely experience in front of a small number of exceptional works of art. I shall return to this experience in detail later on.

Illusion

Central to the meaning which the sculptural language constructs is the idea of illusion. It is a subject which I shall deal with more fully when we look at the workings of the human eye and brain. Here I should merely like to make some general points.

Illusion is far more widespread in sculpture than we may care to realise. Illusion is an invitation to read something as it is not. In other words illusion is an instruction to our brain to read something not as it really is, but as it appears to be. Inherent in this concept is the notion that the appearance is usually radically other than the reality.

Let us return to the first of Degas' dancers that I mentioned when writing about movement. The sculpture is static and yet gives the illusion of movement. It represents a figure in balance and yet this too is illusion. If the bronze were not physically joined to the base-plate the sculpture would fall over. The bronze has been formed to represent limbs, muscles, skin and invites us to believe in the reality of these elements of the dancer's body. This 'suspended' belief is also illusion - the limbs, muscles and skin are a lump of bronze. The bronze looks solid, but is probably hollow. (This is certainly the case in larger works in bronze). There is an illusion that the taut extremes of the buttocks are the outer points of a solid from, which as I have said is probably hollow. Any expression that there may be on the face is also an illusion - it is not actual, but metaphoric.

However much a sculptor tries to exorcise illusion from his work, (something which concerned me for a time, many years ago), however much he tries to make an

object which refers only to itself and nothing else, he will be unsuccessful. Perhaps an unpolished stone cube will not involve any illusion. Polish it and the illusion is that the nature of the surface is the same as the material within, which it is not. An unpolished stone cube is not sculpture because it does not employ illusion. Illusion is essential to the language of sculpture. It is the means through which dialogue is created with the viewer. It is through a series of complex illusions that the sculptor tries to focus the response of the viewer.

'Narrative' and 'Embodiment'.

Having said this, there are some sculptures which use illusion to a greater extent than others. They may be considered as 'narrative'. Such works not only use the illusions common to all sculpture, but they have the added allusion of telling a story. As an example let us look at Bernini's 'The Ecstasy of Saint Theresa' in Rome. The sculpture is telling a story. To Understand it, it is a pre-requisite that we know that the winged figure is an angel who is appearing to Saint Theresa. We may or may not know who Saint Theresa is, or was, but she appears (and this is again illusion) to be either having a vision - her eyes are closed - or perhaps taking part in a real event, when an angel is physically hovering beside her. Saint Theresa is placed on what appears to be a cloud and 'rays' of metal hang on both side of the figure group, purporting to be sun rays, or, perhaps, divine light. The sculpture is an extremely complex set of illusions, which make up a story. We are invited to suspend our knowledge that this is not a real event and to believe in it as such. As such it is a tour de force of representational art.

If we compare Bernini's piece to a Cycladic figure - lets say a female figurine of the Syros Group. [21] This sculpture represents a female figure. The illusion of femininity is created by two small swellings on the chest area and an inscribed triangle at the top of the legs. It too employs illusion with simplified, hardly defined forms standing in for arms and legs. Its neck is long and its head extremely pared-down, its only facial feature being an over-large nose. It is an illusion of a figure defined with a great geometric simplicity. It obviously alludes to a woman, but this is no specific woman. It tells no story, it simply is. It is 'there'. I must admit that I prefer it to the Bernini.

I have given these two random examples to show a difference in attitude. It is in part a difference in the degree of illusion employed by the sculptor. The Bernini aspired to make the illusion that a specific event is occurring before our eyes. The Cycladic figure is quiet and unassuming and yet of immense power. Its illusion is confined to the concerns of making a simple image in the material. They are illusions determined by the nature of the material, not by some grandiose illustrative scheme. The Cycladic figure communicates in its modest way through every millimetre of its material. It embodies the concept not by illustrating it as Bernini did, but by the embodiment of the concept in an image which is a visual equation for a human state of being. The sculpture embodies 'womanhood' by encoding in its image an equation to our deeper 'sense' of this state of being. Bernini, by comparison, uses every kind of illusion possible to try and make us believe in the real physical presence of his subject. I think that he fails.

I should bring in another area which may be regarded as narrative. Alberti's treatise on painting from the Fifteenth Century had an enormous impact on Western European art until the end of the last century. He argued that the viewer sees, and reacts to, depicted emotions in paintings and encouraged artists to study the effects of emotion on gesture and facial expression. In other words, he was arguing that if one wishes to

make a sorrowful sculpture, then the sculptor must do this through the facial expression and the pose of the body. This attitude to the making of sculpture is also narrative in the sense in which I use the term here. This convention had a profound effect on sculpture during this long period. It is a stance which, I believe invariably leads to sentimentality. The emotion is illustrated and, with a few exceptions, does not pervade the material. Such sculptures do not exude emotion, but sentimentally illustrate it. This stance towards expressing emotion in painting and sculpture is unique to this period and geographical area. No other world sculpture, with perhaps the exception of certain Classical Greek works, has held with it. The rest of world sculpture, generally, employs 'embodiment' and not 'narrative'. Put simply, a sculpture which makes an illusion of realistically representing a sad face will be of lesser value than a sculpture which alludes to our profound experience of sadness.

Image

Considered altogether the complex of physical elements and their inherent allusions and illusions create an image. We may view the sculpture as many parts, but in totality they are an image and this is what we see when we view the whole work. It is this image which, through its illusions and allusions causes a meaningful reaction to the formal parts of the work. The forms, lines, shapes, etc., are of a fragmentary nature; they are parts of the sculpture, but they have no meaning on their own. The relationship of these fragments in the final sculpture constitute a totality. The sculpture before us is a real thing, an object, and also an image. It is an image of a concept or idea in the mind of the sculptor and also an image of an act in time. That is to say that it is an image of the process of its coming into being. The decisions that the sculptor has taken during its making are decisions of the visual world (the world of images) and not decisions based on linguistic thinking and moral or ethical motivation. This is what differentiates a sculpture from other man-made objects in the world. A chair is a chair and not an image of a chair. A sculpture, whilst it is undoubtedly a material thing of a certain configuration, is also an image of something else. It is an image of an intellectual, emotional, or spiritual reaction. The sculpture encodes a complexity of meanings. Its function is the communication of these encoded meanings. It is a physical visualisation of the non-physical.

I have discussed briefly a sculpture by Bernini. The Bernini is a sculpture which is an image of a recognisable event that one may or may not have culturally learnt. That is to say that one may have learnt the history of the event - the appearance of the angel of God to St. Theresa - and thus be able to recognise the sculpture as an image of this event.

A sculpture, then, might be understood to be an image of a complexity of different things. It is an image of the sculptor's thinking, an image of its own making and, by function, an image of a relationship to something in the world outside of sculpture.

When people view sculpture they tend to think of it in terms of an image of the latter kind. The frequent question, 'what is it meant to be?' actually means 'what is it an image of?' but, as far as the sculptor is concerned, a sculpture is meant to be what it is. The sculptor made it thus with intention. Viewers of sculpture are generally unable to accept the sculpture as an object which has no parallel in the world of other objects. They need to relate it to something else within their experience. They need it to be an image of something else, even though sculptors do not, necessarily, think in these terms. For the sculptor it is an image of the thought and physical processes that went into its

making. It is an image of the response which he wishes to trigger in the viewer. In fact, for the sculptor, it is an image of a part of himself and themselves.

William Tucker, as I have already said, spoke of the sculpture differing from other objects by being more 'visible' than they are. I, as Tucker did, have suggested that what differentiates a sculpture from a chair is its function. This difference is based in 'image'. The chair is not an image of a chair, but an actual chair. The sculpture, as I have said is not only object, in that sense in which the chair is, but also image. This image encodes the process of its coming into being in time, and encodes the 'statement' of the sculptor. In addition it encodes our biological condition and the workings of the human mind. The associations it invokes in the mind and psyche of the observer are encoded in its form-language and, thus, in its overall image. It shall be my task, in the pages that follow, to elucidate how the sculpture works as image.

"Anyone who thinks that the illusion of space in painting is a simple, easily analysed matter, must be totally insensitive to the pictorial realities. It must surely be apparent to readers from everything I have just been saying about this picture that the sensations of spatial depth and recession are utterly mysterious in their operation and their causation and, strictly speaking, are beyond analysis. All I have been trying to do in front of this painting, is to record, as faithfully as I can, a set of overwhelmingly definite spatial sensations which, when one struggles to communicate them in words, seem rather paradoxical, even contradictory. So far from being able to say, as used to be said, anything as stupidly simplistic as that 'all reds advance; all blues recede', one is driven to conclude that there are no generalisations, no general truths about the illusionistically spatial operation of flat colours organised side by side across a flat surface. The aesthetic experience, the spatial sensations, are utterly concrete: they bowl us over, they are totally present to one's visual senses, yet to explain ***them seems increasingly impossible. At best one can only hope, very inadequately, to describe them."*** [22]

My explanations of these fundamentals of sculpture may seem slightly simplistic and the way I have chosen to cover them in a kind of glossary of different characteristics might be misleading, for in a sculpture these different aspects of the language are interwoven in a highly complex way. As an example, what I have called 'gravity' is a concern in the making of the sculpture - obviously the sculpture must not fall over - but gravity when used in a visual sense is closely tied to illusion. A sculpture may not defy gravity literally - i.e. it must not fall over - but it may give the illusion of doing so. Similarly a flat surface might not be strictly flat, but the eye reads it as such and this is in turn an illusion. Here what I have separately described as 'surface', 'eye' and 'illusion' are aspects that are woven together, through the 'material', as part of the complexity that is the 'image'.

A problem must be noted here. It is that which Heron alluded to in the above quotation, that of using words to describe a non-verbal language. My choice of headings in the passages above are probably contentious and others might have chosen different keywords. My descriptions may also be lacking. It is a problem of the spoken language that words are so imprecise (and that is maybe partly why I normally choose to use a language which is not dependant on them; namely sculpture). I have, above, tried to describe in words some aspects of this non-verbal language. It is primarily a language that is based on sight and our experience of things in the world and I am only too aware of the paradox of trying to explain in words that which is not of words.

"There is mathematics, there are computers and there are pictures, but the bulk of our communicated thinking is done with language. I do not believe that language is essential for thinking, though it may be for extended thinking. But in society the communication of thinking is through language. Culturally language has come to dominate our thinking - and this is a grave defect. Language is a communicating system, and not a thinking system. Thinking and communication are quite different, and we run into serious trouble when we confuse the two. I believe it was Wittgenstein who said that the function of philosophers has always been to protect the truth against language." [23]

It is perhaps a mistake to even think of sculpture as a language, for languages require words. These words are related to each other in syntax and on the basis of the related words the language may communicate something. Perhaps the notion of sculpture as a language arose only because of sculpture's obsession with itself, particularly in the last half of the Twentieth Sculpture. As sculpture has become more and more concerned with its own tenets, as opposed to the world outside of itself, it would seem natural that this self-examination should be formulated into some notion of a coherent and independent language.

If we are to make an argument for sculpture being a language, then the parallel between the spoken and the visual may be made thus: The 'words' of sculpture might be its lines, shapes, and planes in their individual unrelated states. The 'syntax' of sculpture would be the way in which these relate to each other, making 'form sentences'. The resultant image may be equated with the message of language - perhaps a book, a newspaper article, or a spoken point of view. But, the most difficult thing to grasp is that sculpture communicates without spoken language. It has no words in the normal sense that a language does. It works in some way as a word language does, but it is a language that is entirely visual - a language of the eye and the brain, a language dependant on our physical experience of being in the world and not on any rational word-based analysis of this experience. I shall be discussing this more fully later on.

We must, at this point, also look at a second problem. We need to differentiate between the visual language of sculpture as it is used when viewing and talking and writing about it, and that which the sculptor employs himself during the production of the work. The above terms are the terms we use when talking or writing about sculpture and whilst these concerns are undoubtedly essential to the making of sculpture, it would be a mistake to think that a sculptor consciously considers these things in the course of making a work. He may consciously dwell on some of these aspects whilst having a problem in realising the work, but generally speaking his language is one without words and without a great degree of logical thought. The sculptor certainly uses this language but does so on an intuitive level, an intuitive level that may be tempered with practice and experience. Here Gertrude Stein makes some pertinent comments in an essay on masterpieces;

"The thing one gradually comes to find out is that one has no identity that is when one is in the act of doing anything. Identity is recognition, you know who you are because you and others remember anything about you yourself but essentially you are not when you are doing anything.".....
....."At any moment when you are you you are you without the memory of yourself because If you remember yourself while you are you you are not for purposes of creating you." [24]

For the moment I do not wish to dwell on this problem - the difference between the sculptural language used by the sculptor in making, and that language used by the observers in viewing the work - as I hope that the nature of this paradoxical situation will become clearer later on.

There is a third problem, which I have already mentioned. The terminology used here may also be used in considering and evaluating other objects in the world. What differentiates a sculpture from a chair is its image and, coupled with this, its function and, to some extent, the context in which the sculpture is seen which invites us to 'see' it in a certain way - in a way that we would not normally view other objects. Sculpture is unlike other objects in that it has a built-in invitation to view it in a certain way. The very way in which the bones and muscles of the sculpture are put together is determinant of how we may view it. The sculpture's structure not only carries a message, but also instructs us how to read that message. This is a result of the way our brain functions, as I shall attempt to show later. ‡

We have now reached a point where we have a kind of basic language. It is a language which has a role in the making of sculpture, but which is particularly to do with the way we may talk about it and, to some extent, about other objects too. We need to look at how this language is used in practice by makers of sculpture and by viewers of sculpture, but firstly I should like try to establish the origin of the language itself.

‡ See 'The Brain' and 'Looking at Sculpture".

Part two The Biological Aspect

Chapter 1 Introduction

".....'How can a work of art outlive its origins?' To put it bluntly, if the ideological, political, social and economic mediations of a work are so important, how is it that I can walk into the Victoria and Albert Museum, look at a piece of sculpture from an ancient Indian civilisation of which I know next to nothing, and still enjoy it." [25]

It is 1980. I am working in my studio in Bath Academy of Art, where I have been appointed as Fellow in Sculpture. There is a knock at the door and in comes Peter Fuller. Peter is a critic who is much in the news, having written a number of scathing criticisms in the art press about, amongst others, my friends. I am working on a series of sculptures combining stone and steel. An unfinished piece called "Head 1" is one of the main contentions. It consists of two stones stacked on each other and a third which hangs from a steel armature fixed in the other two stones. It is perhaps reminiscent of Julio Gonzales' work which I have studied extensively in Paris. The materials are different, but like Gonzales' heads it is abstract and yet is reminiscent of the head - how deeply we feel the urge to relate sculpture to our own bodies! I am surprised at Fuller's encyclopaedic knowledge of not only art, but a wide range of other subjects. He argues convincingly and yet I disagree with almost everything he says. We talk for hours.

A couple of months later, there is a knock at the door and this time Fuller enters without waiting, strides straight to "Head 1", now finished, and says "Yes, I am sorry, you were right". I am surprised that he can be convinced by someone else's arguments - he always seems so sure, almost to the point of arrogance, in his writings and lectures. After this we meet on a number of occasions. He had told me on his first visit that I should visit sculptor Glyn Williams. I never have, although I did speak to him on the phone last summer (1995) and promised to look him up next time I am in London. Every time we meet Peter asks if I have "seen Glyn yet."

There follow a number of books, perhaps the most interesting of which was "Art & Psychoanalysis". In this book Fuller's declared aim is to find a materialist basis for our aesthetic facility and to do this through psychoanalysis. (Fuller was a Marxist and, thus, a materialist). I had two major arguments with this book, which are relevant to my thinking, still. Firstly was the question of interpolation and extrapolation. He studied Michelangelo's "Moses" at great length, with particular reference to Freud's writings on the sculpture, but I felt all the way through this text that both Fuller and Freud lacked understanding of the 'thinking' processes through which Michelangelo actually went whilst working, or rather, simply chose to ignore them as unimportant. This piece of writing is a classic example of the vast distance between the thinking of the sculptor and the, quite other, interpretation which viewers of the work may bring to it. Fuller generally wrote as though his, Fuller's, interpolation was what actually concerned the artist about whom he was writing, which, clearly, would be absurd. It is a matter that I also discussed personally with him - that of the standpoint of the sculptor. He dismissed this with one of his typically cutting remarks; 'I am not interested in the rubbish artists write about themselves'. I hope to show that this remark was quite correct - that what an artists writes or says about his work is of little value in our endeavour to come to an understanding of it. Now this is a minor point, but one essential to my current text, as I shall attempt to explain the vast difference between the

procedure of the sculptor at work, and the way in which the viewer reads the messages encoded in the image by the sculptor.

My second misgiving was more serious. I criticised him for using psychoanalysis to try and argue for a materialist basis for aesthetics, but without proving that psychoanalysis itself had a materialist basis. My feeling is that psychoanalysis is a practice based on observation of behaviour, from which observation a hypothesis is constructed, and is not therefore, materialist in the strictest sense. To prove the materialist basis of psychoanalysis or, indeed aesthetics, one must look at biology itself i.e. the actual physical workings of the body.

I am delighted when Fuller's next book started with a chapter called "Art & Biology", as if he had himself come to see this discrepancy. However, whilst he acknowledged his mistake and suggested that the solution to his problem must lie in biology, he did not go into these biological processes themselves [26]

It is 1971. My school art-teacher, Eric Atkins, thrusts a book into my hands and suggests that I should read it. It is by Reuben Wheeler and is called "Man, Nature & Art". [27] *It is a modest volume which contains chapters on "Dancing", "Myth, ritual & symbolism", "Biology and art" and "Unity, sex and love", amongst others. It is a book that I feel reinforces everything I feel about art. It becomes a constant companion to me and I subsequently re-read it many times, especially in those difficult moments when work is going badly. It is perhaps because of this book that I am to find so much of what Peter Fuller is to write, to be so obvious as to hardly need stating.*

Peter Fuller, in short, argued that there are certain "biological constants" which determine our aesthetic responses. That we are able to find aesthetic value in a Mayan sculpture from South America, or a Dogon sculpture from Africa, without having any knowledge of the society and culture which engendered them is a result of constant biological conditions which unite our different cultures. In simple terms, we are all born, procreate and die; we all eat, drink, defecate and have sex and these common denominators are the basis of a common language of aesthetic response and judgement.

I should point out that Fuller was saying nothing new here. As an example Wilson Duff had, in 1975, made similar comments in a catalogue essay for an exhibition of North American Indian sculpture;

"Let me go back to the beginning by admitting again bluntly that we do not have any way of "knowing" what the stone sculptures really "meant" to their makers and users. We have not observed them in use, or known anybody who has. Nor do the present generation of Indian people, their more rightful inheritors, have any better way of knowing their deeper meanings. The best we can do is make surmises, based upon what we know from archaeology, ethnography, and mythology, upon parallels with other objects of better known use and meaning, and upon our own perceptions of the images themselves. What we must acknowledge most of all is that our world of reality is very different from the world of reality in which they were created, and that the only certain area of overlap is that which results from a sharing of the concerns of the human condition. One such universal concern is sexuality; others are death, the perpetuation of life and self, and the basic shapes of order in human thought. But these, we must also notice, are matters about which man has often preserved his thoughts in stone." [28]

The other part of Fuller's thesis, which will be relevant to us later on, was that, because of the decline of the force of Christianity in our society, we suffer from the lack of a "shared symbolic order" and, as a result, artists are faced with the difficulty of having no language which is meaningful to society as a whole. He proposes that the way forward lies in the development of the "tradition of higher landscape" and sees that a creative response to landscape might incorporate those spiritual values that he finds lacking in de-spiritualised modern art, the expression of which values would, he argues, seem essential to the well being of our society. [29]

When I first read about Fuller's "biological constants" I was excited by the idea, although I should say that Wheeler had already argued along similar lines. I now have certain misgivings.

Firstly, we must make a clear distinction between that which is truly biologically determined and that which is conditioned by our environment or our social beliefs. The biological part of sex - the joining of the male spermatozoa and the female ovule - is a biological constant, with slight variations for twins, triplets, etc. The rest of sex is not, occurring as it does today, not only as a result of a natural animal instinct, but as a highly sophisticated act, whose rules, taboos, and practice are determined by our sociological environment, which will differ widely according to where we live.

Death too is a biological moment when certain bodily functions switch off, although the considerable number of people who have been clinically dead and come back to life, all recall that after the moment of "death" their whole life's history was relived in a short space of time, which would suggest that the memory replays everything before being switched off (if indeed it is) and this poses the awkward question of what death is and when does it actually occur. If some of the brain's functions continue after what has till now been considered to constitute clinical death, then the question obviously arises of what death is. Sculptor Ernst Neizvestny is one of those who has 'come back to life' after being declared as clinically dead.

"One morning I woke up completely free from pain. I was at peace and content. But I could not open my eyes, could not say a word, not move a limb. I could, however, hear what was going on around me. I heard that there were doctors standing by my bed. They were saying that I was dead and gave the Latin name for my condition. I had grown up in a doctor's house, so I knew the terminology. I wanted to let them know that I was alive, but could do nothing. I was completely unafraid, calm, and happy... I knew only peace and was free from pain.

The stretcher bearers came to take my body to the mortuary in the cellars, down a great many stairs. I was particularly heavy because of all the plaster. They could not be bothered to carry me, so they heaved me over the banisters and went on their way. The plaster cracked open as I hit the ground at the bottom of the stairs, and this presumably touched off something in my mutilated back. I began to scream with pain, I know not for how long.

In the meantime my old nursemaid had come into the ward and found my bed empty. She found out that I had died and had been taken to the mortuary. So she went down there to take her last farewell of me. And on her way down she found me lying screaming. I was carried up again, back to life and pain. But the bureaucrats had already managed to send news of my death to my family." [30]

Death, like sex is surrounded by ritual and taboo which varies between races, religions and, indeed, social groups. Our experience of death is tempered by these culturally learnt attitudes towards it, and this would appear to be true for our

experience of our own death too. Given this, the actual common biological experiences would appear to be very minimal and the variations in socially conditioned attitudes towards these events would seem to outweigh any common biological factors.

There is another problem with the biological constant of death. I shall explain it through an illustration. As an example I shall use the first 25 verses of the second chapter of the Bhagavad-gita, although I may have equally used the Holy Bible or numerous other ancient texts which we, perhaps mistakenly, refer to as mythology. [31] A large battle is about to take place involving gods, half-gods and men. Arjuna does not want to fight for fear that the gods will be destroyed and the race will become impurified as the women will then couple with others. He is also appalled at the thought of killing his friends and teachers. Krishna states in verse 20 that;

„A lelek nem ismer sem születést, sem halált; ha már letezett, többé meg nem szünhet; nem-született, orokkévaló, mindig-letezö, halhatatlan és ósi, s ha a testet meg is ölik, ô meg nem ölhetô." ("The spirit never knows birth, neither death; if it has once been, it can never end; not born, always existing, invincible and ancient, and should the body be killed, it is inextinguishable.") §

Now Peter Fuller would have hated this whilst he was alive, but may now have a different opinion, should he be orbiting above us somewhere. [32] As a strict materialist he left no room for such speculation. [33] The belief in this, or another set of religious values, must have a profound affect on the type of sculpture produced by the believer and it is in these cases, particularly, that the constancy of Fuller's "biological constants" are contaminated with the social conditioning which is an affect of the belief. The Christian beliefs of Michelangelo may have had a far greater importance in determining the nature of his fresco of "The Last Judgement", than any biological constants. A Hopi Indian looking at the fresco may be moved by it and, as Fuller would have it, his reaction may be enabled by biological constants, but it may equally be caused by a similarity in the belief of the Hopi Indians concerning death and afterlife. If this concept of an everlasting life is true, then we are not born and do not die and these things cannot, then, be regarded as biological constants, although the physical act of squeezing through the lips of the vagina of the mother may be.

I have a further misgiving. Being born, procreating, dying are experiences also common to dogs (or other animals) and yet the human would seem to be unique in making objects solely for aesthetic consideration. (Richard Hamilton did have a show of pictures of dog faeces, hung at dog-eye level, but this did not bring any notable canine response. Phillip King, in a lecture about his work at Trent Polytechnic in the seventies, recounted how it poured with rain at the official opening of a large public sculpture of his, (I think in Holland). He and the officials stayed in the limousines provided and the only visitor to the sculpture was a dog who cocked his hind leg and christened the work - "the only art critic present" as King put it. Nevertheless, this may well have been coincidental and not an example of canine art criticism. (Of course it may even have been a two-legged art critic in disguise.)

Having said all this I do not wish to overthrow Fuller's thesis entirely. I do think that the language of art and our capacity for aesthetic appreciation and evaluation, have their roots in biology, but these roots lie in the mechanism of the body itself - in the DNA patterns, in the functions of the brain, in the way we see and sense and in the rhythms of the energy impulses in our synapses and the blood circulating in our bodies. These real

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§ My translation.

biological constants are tempered with culturally learnt experience and together they formulate our capacity for aesthetic evaluation. Our biological systems determine our capacity to formulate language. The systems themselves are causal of how we are able to do this - the given biological systems can only work in certain limited ways. What we then do with these systems is dependant on our culturally acquired experience and I should now like to look in some detail at this problem and try to unravel these two quite separate strands from each other. To do this we must turn to genetics.

Chapter 2 Genetics

"Man's physical being contains within itself all the basic rhythms that go to the creation of dancing and music. The repetition of accent which marks the bars of music, is echoed in the tap of the dancer's feet and is like the beating of the heart. The melody which flows over the regular beat of musical time is expressed by the dancer's body and arms. This may be likened to the rhythms of breathing, and the patterns traced upon the ground by the travelling of the dancer's feet coincide with the sweep of musical phrases and are comparable to the flow of the circulation of the blood." [34]

If we wish to establish a biological basis for our ability to react to and appreciate sculpture, it is necessary to establish a common ground between each of us and between us and our predecessors. It is quite obvious that the nature of our optic system must affect the way we see sculpture, but to place any weighty importance on the mechanisms of such a system itself we need to be sure that your and my optic system behave in the same way. It would furthermore be helpful in explaining my ability to appreciate a Dogon, or ancient Egyptian sculpture, if the physical workings of my eye and brain may be shown to be the same as the sculptor who produced these works. In this case my ability to get pleasure from such works may be based on our common biological systems. If we are to prove this it is necessary to study how these systems are inherited by each generation, over considerably long periods of time.

It was in 1865 that Johann Gregor Mendel's first law of genetics opened up the modern study of the way in which biological information is passed between parent and off-spring. (Lamarck's relevant contribution preceded this and will be dealt with below.) We had to wait almost a hundred years for the next big leap, which was the cracking of the genetic code by Watson and Crick in 1953. Watson and Crick worked out the complex structure of the deoxyribonucleic acid, (DNA), the genetic material of the cell. Eccles claims that;

"The segregation of this essential evolutionary material into the cell nuclei was achieved very early in the evolution of the unicellular eukaryotes that arose about 1.8 billion years ago." [35]

(I shall discuss these evolutionary aspects in detail, later, as this is of central interest to my argument.) I should now like to give a brief outline of the genetic system, as we understand it today.

The nucleus of the cell contains the DNA. Its form is that of a double helix, which is very long and densely coiled. Each of these strands is made of sugar and phosphate moieties, which are arranged alternatively. To each sugar a molecule is attached. This is either an adenine, guanine, thymine, or cytosine molecule. The two helices are linked together at regular intervals by hydrogen bonds, the adenine of one linking to the thymine of the other, the guanine linking to the cytosine, and so on. This patterning is the genetic information of the cell, and it is this which is passed on during reproduction. Essential to this process is protein and the enzyme, Ribonucleic acid, (RNA). It is the RNA which accepts the DNA information and passes it on to the new DNA, or to protein. The RNA is the postman. Smith points out that certain viruses can simulate the function of the RNA, thus passing on defective genetic information. [36]

In human reproduction the male cell joins with the female egg. Each of the two genomes contains DNA. If everyone's DNA code were identical, then the two DNA

systems in unity would produce an exact replica of both parents, provided that there is no 'outside' interference. (As the information of the DNA is passed to the new DNA through the RNA, the RNA, or viruses simulating the RNA's function, could affect this transfer). The matter is complicated by genes. The strands of the DNA carry genes and it is these which contain the precise information necessary for the building of amino acid sequences. Simply our bodies require a large range of different types of proteins and it is the configuration of genes in relation to each other which makes their production possible.

Eccles accepts the existence of around 30,000 human genes and around 3.5 billion genetic configurations in our cells. [37] The DNA is sub-divided into chromosomes and in the human genome 23 of these exist, each having its own character (or gene configuration) and each responsible for a different job. During reproduction these chromosomes join with the 23 chromosomes of the partner's genome. thus making the normal human compliment of 46 chromosomes. The groupings of genes, or 'alleles', is different in each individual, with the exception of identical twins, although Dawkins' opinion differs from that of Eccles. (See below) [38]. The 23 chromosomes of the male genome contain all the genetic information of that male (and by implication, of his parents, grandparents etc.) and the 23 chromosomes of the female genome, all that of the female (and her ancestors). Here we must imagine a kind of "gene wars" in which certain of the male gene configurations will be more strong than the female's and vice versa. In simple terms, if the family of the male side has had black hair for generations and the family of the woman's side sometimes black, sometimes brown and sometimes blond, then the offspring will almost certainly have black hair as the combined fact of the male genome's 'family history' will be stronger than the female genome's mixture of hair colour alleles. However, the offspring's genome will in turn carry traces in its DNA of the mother's (and her family tree's) varied hair colour.

The possibility exists of gene mutation - accidental, or direct. (I am thinking here of recent gene manipulation experiments). For example, instead of the adenine, the cytosine may join the thymine. Eccles suggests here that such accidents are normally unimportant as their detrimental nature to the survival of the animal, will lead to their disappearance through natural selection. One might argue that modern medicine and the social practice of keeping alive patients with genetically based deformities and diseases, who in turn will often reproduce and pass these on, can only lead to the deterioration of the genetic stock - to a kind of genetic degradation. Whilst his argument may be true of animals, and indeed humans at an earlier stage of their development, our current social and medical practices and ethics would seem to be working against the notion of natural selection and the survival of the fittest.

Eccles then writes of beneficial mutation;

"Only on rare occasions is a mutation beneficial for survival and reproduction. Such a mutation will be transmitted to successive generations and will result in enhanced survival of the biological group sharing this mutation. So after many generations by natural selection this favourable mutation may come to be incorporated in all members of that species, which consequently reflect a slight change in genotype." [39]

Richard Dawkins deals with the question of how the genetic material is activated during embryonic development. [40] Each cell of our body contains the genetic information to make a whole human. Yet, different cells in our body have different functions. During embryonic development that part of the genetic information necessary for the creation of the various cells is activated variously.

"Mi dönti el, milyen gének lépnek mûködésbe egy adott sejt esetében? A sejtben már jelenlevö kémiai anyagok.")

However, Dawkins also states that,

„Hogy adott sejtben mely kémiai reackiók zajlanak,azt az határozza meg, mely enzimmolekulák vannak nagyobb számban. Minden enzimmolekula felépitéseert, perdönto alakját is beleértve, egy meghatározott gén a felelös." [41]

According to this, genes cause the production of the enzyme molecules present in the cell, which in turn activate the genes which determine the cell's characteristics - a classic chicken and egg situation, as Dawkins himself recognises. Dawkins gets round the problem by comparing the function to the loading programme of a computer - a programme which instructs the computer how to read the loaded programme. Dawkins states that something similar exists in our genetic system:

„Hogyan differencialódnak (a szakszóval élve) ehelyett májsejtekké, vesesejtekké, izomsejtekké stb., miközben mindegyikben más és más gének lépnek mûködésbe és más enzimek aktiválódnak? Kérem szépen, a programbehúzás segitségével, mégpedig a következôképpen. Habár egy petesejt gomb alaku, kémiai összetételét tekintve különbség van a pólusai - a teteje és az alja és sok esetben az eleje és a hátulja (ezért a jobb és bal oldal) - között. Ezeken a pólusokon a vegyületek más-más koncentráció jelentôsen megnövekszik például, ha hátúlról elôrefelé haladunk a petesejtben, másoké meg akkor, ha fentrôl lefelé. Ezek a korai koncentráció-különbségek meglehetôsen egyszerûek, mindez azonban elég ahhoz, hogy beindítsa a programbehuzás elsô szakaszát.

Amikor a megtermékenyitett petesejt, mondjuk, harminckét sejtté osztódik - tehát öt osztódás után -, e harminckét sejt némelyikében a petesejt csúcsában lévô vegyi anyagok jutnak túlsúlyba, mig másokban a petesejt aljára jellemzö anyagok. Kiegyensúlyozatlanság mutatkozhat a sejtek között az elülsô és hátulsó koncentrációgradiensek viszonylatában is. E különbségek elégségesek ahhoz, hogy a gének különbözö kombinációját léptessék mûködésbe az egyes sejtekben. Ezért a kezdeti embrió különbözö részeit alkotó sejtekben eltérö enzim-kombinációk lesznek jelen. Ez pedig gondoskodik további génkombinációk beinditásáról a különbözö sejtekben. Az utódsejtek tehát különböznek az embrión belül, nem maradnak azonosak klón-ôsükkel." [42]

I can only give Dawkins credit and assume that this is an assumption based on the results of scientific study and not merely plausible speculation to get round a rather thorny problem. He unfortunately offers no evidence to back his arguments, in what can only be described as a highly didactic book. I shall have to believe that he is right.

The importance of our genetic make-up to my arguments will become more apparent later. At present suffice to say that our genetic constitution determines the nature of our brain and optic functions and the degree of constancy between my and your various biological systems. It is in these that the essence of the language of sculpture lies. Before developing this theme further I should like to pause and to take a look at the question of evolution.

Chapter 3 Evolution

Whilst our understanding of our genetic make-up may be studied through scientific experimental procedures, the study of evolutionary genetics would seem to be much more a question of speculation and imaginative guesses backed by some rather unconvincing experiments and observation. Its importance to my arguments is to do with the idea of constancy as put forward by Fuller. If our genetic structure is in a state of flux, then so too must be our brain and optic functions.

I should like to begin by looking at two historical figures, and their theories which constitute the foundation of our understanding of evolution.

Jean-Baptiste de Monet Lamarck, (1744-1829) preceded Darwin in his interest in the idea of hereditary evolution. What Lamarck proposed was that the functions of the body, through their habitual use, became more and more efficient and that this increased effectiveness was passed on from generation to generation. In other words, the body, and its functions, is able to adapt to its environment. Smith [43] gives the example of humans living at high altitudes who produce more red blood cells than their counterparts who live at low level. That people do adapt to their environment is undoubted, but the question for us, here, is whether these adaptations may be transferred, as Lamarck believed, from one generation to the next through our genetic system.

"I have just been to our village pub to buy the Sunday newspaper and was captivated by the final of the Australian Open tennis final in which Becker defeated Chang. Of course the match was enthralling, but what particularly interested me was what was happening on the screen before me. These tennis players were making decisions with their optic system of the minutest exactitude. These decisions were based on practice, on years of experience. Their training had made them capable of making decisions in which the eye and the movements of the body are in accord to such an extent that one can only describe it as super-human, or genius, within its field. The eye has become so highly trained - and the resulting bodily movements so oiled - that responses to the movements of the ball, as directed by the other player, invoke replies that, to us non-tennis playing mortals, are extraordinary. Such optic training is also regularly used by sculptors, although here it is not the movement of a ball that is in question, but the amalgamation of line, shape, form, interval, etc., about which I wrote earlier."

What Lamarck argued was that the practised use of the systems of the body had a genetic affect and that this may be passed on to subsequent generations. It is on this basis that genetically based sperm banks have been founded in America so that the possibility will exist in the future to buy gene stock 'off the peg' and produce exceptional tennis players or politicians.

From my understanding of current evolutionary theory Lamarck would seem to be discredited, but it does seem to me that he provides at least a plausible explanation for the way in which genetic change may be influenced, or even caused by environmental factors. Furthermore, a very unscientific hunch tells me that he may be much more right than we think at present.

Charles Darwin's (1809-1882) theory of evolution was deeply based in the idea of the survival of the fittest, or natural selection. He argued that the most well adapted organisms would reproduce more effectively and thus, those characteristics of 'well adaptedness' would be propagated, meaning that the well adapted strains would become

ever stronger, whilst the weaker, or less well adapted strains would become ever weaker. [44]

The argument may be illustrated by an example that Maynard Smith gives of industrial melanism in the moth Biston Betularia, although Smith uses this example in quite a different context. This moth is normally of a speckled grey colour and in 1850 an almost completely black example was found. This blackness is a camouflage, making the moth harder to be seen by its predators as it rests on sooty trees. Within a hundred years of this first sighting of the black variety 95% of this species in industrial areas showed this black variation. [45] According to Darwinian theory this would appear to be an example of the evolutionary process. The moth adapts to hostile changes in its environment and is better able to survive than its counterparts whose speckled grey colour make it easy prey. This is what Darwin meant by the survival of the fittest.

Such change as the moth underwent slowly leads towards the better functioning and the greater suitability of its bodily systems in relation to its environment. This would then, at least logically, be a continuing process slowly developing over a long period of time which in the case of humans has, according to Darwinist evolutionists, taken several million years. It also presupposes that we are still developing genetically, or that we have reached some kind of perfect state of gene development in which our gene combinations have reached a maximal suitability to the environment.

Smith also acknowledges the contribution of August Weismann (1834-1914) to current evolutionary thinking. Weismann argued that the fertilised egg divides in two different ways, one of which forms the soma (i.e. the reproduced body) and the other which forms the 'germ line' (i.e. that part which will again, later, reproduce). Weismann's germ line is immortal and, he says, unaffected by changes to the soma. This is obviously the antipathy to Lamarck's stance. Smith comments thus;

"the energy and material needed for the production of gametes are provided by the rest of the body, so there are opportunities for the soma to influence the germ line. In fact, Weismann's insight was to realize that what is relevant is the passage, not of material and energy, but of information." [46]

These different theories, or rather a combination of them, still form the basis of evolutionary genetic theory today and we shall be returning to them later.

For my thesis there are certain questions about the genetic process which are particularly important and I should like to look at these in turn.

Firstly there is the question of the nature of evolution, if indeed evolution actually occurs. If my genetic make-up is identical, or very close, to that of an Egyptian sculptor 4,000 years ago, it may prove to be the basis of my ability to empathise with his work, although I have a quite different cultural and historical background. In other words, the nature of our biological functions, inherited through our genetic system, might be the same. If this is the case the possibility exists of our common biological system being causal of the way in which we can respond to the world and these common factors may outweigh in importance any culturally-conditioned characteristics, mediated, as they must be, by place and time.

Eccles tries to show how the brain has developed from a mammalian to a human brain and does this through an examination of pre-homo sapiens primates. His argument is based on Darwinian evolutionary theory but, as with Smith, with some amendments. He argues that all the existing pongids, proto humans and the now extinct great apes, all derived from one original source, around 30 million years ago. [47]

If we accept Darwin's theory, then the "favourable mutation" should eventually spread to all members of the species and it would be difficult to accept Eccles' argument about the difference between pongids and homo;

"The three species of pongids -chimpanzees, gorilla, and orang-utan - have 48 chromosomes. In Homo two pairs of chromosomes have united by centric fusion to form chromosome 2, hence homo has 46 chromosomes."

Man, it would seem, is the result of genetic development, a development which escaped the pongids. By the implication of the Darwinist evolutionary theory the pongids are, or should be constantly evolving, just as we are and yet they have not evolved this seemingly advantageous centric fusion. As they cannot interbreed with us, they must have developed in isolation from us and this would seem to deny the idea of a common ancestor, or they too would have undergone this advantageous fusion.

The answer to this problem would seem to lie in the hypothesis that relatively isolated groups may evolve at a very rapid rate and that these then return to their ancestral territory and co-exist with, but do not mate with the old, lesser evolved species and Eccles claims there to be examples of this in the fossil record, where supposedly newly evolved species are found to have existed alongside the original species from which they evolved. Eccles states that,

"A species consists of a population rather than of unconnected individuals. The population of a species is reproductively isolated from all other species because of the fertility criterion. Other rather similar species may inhabit the same territory, but despite this sympatric coexistence there is no interbreeding." [48]

Australopithicus africanus would seem to have been as different from homo habilis as is, say, a gorilla from an orang-utan - two species which we know cannot interbreed. According to Eccles' argument all these pre-homo types must have, at some point in time, been of one species, (and thus able to breed), and yet on the other hand he wishes us to believe that they were capable of evolving very quickly in isolation and not breeding subsequently with the older ancestors. Now to me this raises the question of the difference between a species and an evolved sub-species. Where is the point that a sub-species cannot, or will not, mate with its ancestors? Secondly, why has one isolated group developed beneficially into a sub-species, whilst the original group has not? What has caused this beneficial genetic change in one group, whilst the other stagnates? What is the 'motor mechanism' of genetic evolution?

Before I go into these questions in more detail I should like to mention one more difficulty I have with the evolutionary theory as put forward by Eccles. That is the total lack of intermediate stages in the fossil record. It is as if there is a fully developed species, or sub-species Australopithecines and then another, homo habilis, homo erectus and so on. He, himself recognises this problem,

"Some of the key happenings in hominid evolution seem to occur without leaving a fossil trace. For example, in hominid evolution the immensely important transition from arboreal to a terrestrial existence..... We need a more complete fossil record." [49]

Or,

"The fossil evidence is inadequate for illuminating the stages of transformation from an assumed hominoid that eventually evolved into an erect striding bipedal Australopithecine." [50]

The fact is that there is absolutely no fossil evidence that these proto humans developed one out of the other. Indeed, the fossil record rather suggests that we are merely looking at a set of different species and to my mind it requires rather too large an imaginative leap to use this fossil record as proof of genetic evolution in a Darwinian sense. It would seem to me that some kind of sudden genetic manipulation is a much more plausible explanation and I shall deal with some theories of the possible cause of this a little later. For the moment there would seem to be a consensus amongst Darwinian evolutionists that, (as Eccles also points out), genetic evolution would appear to occur, in the case of humans at least, in spurts, as the apparent chromosome fusion in the human would seem to illustrate. The idea of constant gradual change would appear to be a misnomer, but I cannot help asking whether the desire to link the pongoids, pongids and man into an evolutionary process has not been causal of this way of thinking. If it is true then this begs the question of what causes these spurts of development.

If evolution, on the other hand, is supposed to be a gradual adaptation and perfection based on environmental factors, it is hard to see why we have not changed genetically for thousands of years. Our environment has certainly undergone radical changes as man has gradually 'conquered' our natural habitat and left his mark everywhere. (See W. G. Hoskins 'The Making of the English Landscape' [51]). Many writers on evolution would seem to subscribe to both theories, slow and sudden evolutionary development, as it better fits one or other of their arguments. Dawkins approaches the problem thus;

„Az evolúció sarkalatos sajátossága a fokozatossága. Ez inkább elvi kérdés, mint tény. Nem tudhatjuk, egy-egy fejezete hirtelen fordulattal köszöntött-e be. Megszakitások is elôfordulhattak a gyors ütemü törzsfejlôdésben vagy akár váratlan makromutációk - jelentôsebb, az utódokat a szülóktól elkülönitô változások. Kellett lenniük hirtelen kihalásoknak is - talán nagy természeti katasztrófák válthatták ki ezeket, például egy Földünkbe ütközó üstökos -, amelyek hagyta vákuumot rovid úton betöltötték a sebesen fejlódó „beugró szinészek", igy a dinoszauruszokat helyettesitô emlósök. Az evolúció nagy valószinüséggel nem mindig fokozatos. Ám fokozatosnak kell feltételeznünk, ha a segitségével kívánjuk magmagyarázni olyan bonyolult, szemlátomást rendezett szerkezetek kialakulását, amilyenek a szemek. Mert ha ez esetben nem fokozatos a törzsfejlôdés, akkor semmit sem tudunk vele megmagyarázni." [52]

However much I read I have, as yet, found no reasonable explanation by the Darwinian evolutionists as to what caused these spurts of genetic development. Perhaps it was, as Dawkins suggests it may have been, the sudden change in the environment caused by the impact of some large meteorite. But this is mere speculation. Whilst it seems perfectly plausible, it cannot be proved or even demonstrated. It has no more value than any other of the many other current 'creation theories' of man. It is the lack of explanation to this key question which has lead me to doubt the integrity of the evolutionist theory. Such guesses as Dawkins', (and he is by no means alone in forwarding this hypothetical explanation), are simply a means of plugging an embarrassing hole in evolutionary theory. Yet, it would seem to me that these holes are so large that they deny the credibility of the evolutionary theory itself.

I should now like to look a little more closely at the theory, as put forward by Darwin, himself. Whilst I find it difficult to agree with him, per se, he does seem to come near to offering a solution to the problem.

In his 'Origin of Species' Darwin gave to the world, when it first appeared in 1859, a very well thought out theory. He had been urged to publish it before it was 'ready', and he refers in it, many times, to another more complete study which was to have followed. He had evolved the theory over a long period and was well versed with the works of others who were thinking along the same lines, as can be seen in the 'Historical Sketch', which he appended to later editions. He foresaw the subsequent criticism which was likely to ensue and is at great pains to present, and explain away, counter arguments to his theory. He therefore deals with both the problems of the inadequate fossil record, and with the question of evolution being both gradual and in spurts.

Before we consider these questions more carefully, I should like to make one general note. Modern genetic theory has adopted Darwin's theory as the totality which it clearly is. Darwin, of course, knew nothing of genetics and attributed the adaptation of species as the passing on of 'blood' from generation to generation through the sexual act. Without understanding the mechanism of the genetic process, he presupposed it in a remarkable way. There is no doubt that his theory was revolutionary, not only in the field of science, but in how it radically altered our world view. Darwin's theory still, today, profoundly affects our thinking in so many ways. One of these is our attitude towards time. J. W. Burrow, in his introduction to the Penguin Classics edition of 'The Origin' points out how different conceptions of historical time were, at the beginning of the Nineteenth Century;

"Most men at the beginning of the nineteenth century thought the world had been created only some six thousand years before, though perhaps few would have cared to be so specific as the famous pronouncement of a seventeenth-century vice-chancellor of Cambridge University according to whom 'man was created by the Trinity on October 23 4004 B.C. at nine o'clock in the morning.' Even so, it has been pointed out that when the poet apostrophized Petra as 'rose red city half as old as time' he meant it." [53]

Now let us look at what Darwin has to say about the problems I outlined above. He deals with the problem of an inadequate fossil record at great length, and it is, perhaps, unnecessary to go into all the details here. Basically, he argues, the required geological conditions for the creation of fossils were not extant at all times, in all places. We find fossils only in certain locations in the earth's crust, but these will obviously represent only those species who existed at that time, in that place, and those species which existed in other regions are obviously not represented. This seems perfectly logical.

He categorically denies the idea that evolution occurred in sudden bursts:

"Natural selection can act only by the preservation and accumulation of infinitesimally small inherited modifications, each profitable to the preserved being; and as modern geology has almost banished such views as the excavation of a great valley by a single diluvial wave, so will natural selection, if it be a true principle, banish the belief of the continued creation of new organic beings, or of any great and sudden modification in their structure." [54]

Darwin is most thorough and convincing in his descriptions of how species evolve in a gradual, slow, way. The idea of sudden evolution of certain species is, he suggests, a misconception, again based on the inadequate fossil record:

"In members of the same class the average amount of change, during long and equal periods of time, may, perhaps, be nearly the same; but as the accumulation of long-enduring fossiliferous formations depends on great masses of sediment having been deposited on areas whilst subsiding, our formations have been almost necessarily accumulated at wide and irregularly intermittent intervals; consequently the amount of organic change exhibited by the fossils embedded in consecutive formations is not equal. Each formation, on this view, does not mark a new and complete act of creation, but only an occasional scene, taken almost at hazard, in a slowly changing drama." [55]

It is on the question of the motor force behind the evolutionary process that Darwin is most pertinent. He actually describes two motor forces, the first of which is man himself. He suggests that man has perhaps domesticated animals since the Egyptian period, thus, for four, or five, thousand years. [56] During this time he has both intentionally, and subconsciously, been responsible for breeding new strains. He argues that man has also affected domesticated plants, in the same way:

"We cannot suppose that all breeds were suddenly produced as perfect and as useful as we now see them; indeed, in several cases, we know that this has not been their history. The key is man's power of accumulative selection: nature gives successive variations; man adds them up in certain directions useful to him. In this sense he may be said to make for himself useful breeds." [57]

He points out that methodical science of breeding stock has only a short history, but goes on to give earlier examples from history of such practises. Man's power, he says, is limited to choosing extant variations from nature and developing these:

"Man can hardly select, or only with difficulty, any deviation of structure excepting such as is externally visible; and indeed he rarely cares for what is internal. He can never act by selection, excepting on variations which are first given to him in some slight degree by nature." [58]

Suffice to say that man has undoubtedly had an affect on nature in the historical period and may have been responsible for evolving certain species at a much faster rate than nature does. Modern genetic engineering, dangerously, allows for those major structural developments which in Darwin's age were inconceivable.

The second motor force is 'Nature' itself. Even for Darwin nature is God given, and it is important to remember that in the Nineteenth Century, 'Nature' was thought of as a holistic entity governed by unseeable forces and, ultimately, by God. Darwin's work was to change this conception.

What he argues is that all living beings are engaged in a struggle for life. They must struggle to survive against adverse climatic conditions, against the scarcity of food and against other individuals of the same species. As a result existence is dependent on the idea of the 'survival of the fittest'. The stronger members of any species will survive and in order for a species to continue its struggle, it must be adaptable to its surroundings. This law causes the selection of the best adapted specimens, whilst the weaker strains and species will, eventually, die out. In other words Nature has its own built-in evolutionary mechanism.

There are minor confusions in Darwin's arguments, where he occasionally seems to contradict himself over small details and he sometimes uses the examples of domestic

animals to illustrate points which should be really illustrated by examples from Nature, but we can let these pass. There are also absences, the gravest of which must be that of disease as a force in the checking of over-population, and, indeed, as a cause of mutation. In fact he nowhere mentions disease.

Now let us cover these questions again, in the light of our improved understanding of evolution, thanks to genetics. We have seen that Eccles, and many other writers, does seem to think that evolution occurred at certain times in quite radical steps. He also still finds the, now much improved, fossil record to be inadequate. Darwin's argument of why the fossil record is inadequate is logically convincing, but this, by no means, means that it is correct.

I am, sometimes, inclined to think that Darwin might be right about the theory of natural selection causing a very slow development of species, but that there have been sudden changes too. Some of these may have been caused by dramatic climatic changes, such as Dawkins' hypothetical meteorite, but there may be many other causes.

There are a large number of sites around the world where vitrified rock formations may be found, often, coupled with high radiation levels. The Tap O'Noth hill and Knock Farrel in Scotland, the Rio Gila in Arizona, and the Gobi Desert in China are examples of such sites, all of which attest to nuclear explosions in ancient times. Perhaps the war in heaven of all those ancient texts was no myth. Such nuclear explosions, which seem to have occurred world wide would also have an enormous genetic effect. [59]

A considerable variety of other theories have been put forward as to how man 'evolved' or came into being, and this is perhaps not so surprising given that we are, here, really asking the big question, 'where do we come from?' I should like to summarise some of them, rather briefly.

There are a vast number of creation 'myths' in which these genetic changes would appear to have been caused by gods. These may be regarded as divine interventions in the genetic development of man in which the Gods couple sexually with human women. Here the Greek Gods are a case in point, as is the creation myth of the Manysi people of the Volga River, to give just two examples. [60] In what is, traditionally at least, a Christian society, we tend to dismiss this non-biblical literature as mythology and to read the Bible as a mixture of the materialist and the symbolic and gloss over some rather embarrassing questions.

It was in 1973 that my attention was brought to another kind of thinking about these ancient texts, when I read T.C. Lethbridge's 'The Legend of the Sons of God'. [61] Lethbridge suggested that the Bible might also be read literally. He quoted the first two verses of Genesis chapter 6;

"And it came to pass, when men began to multiply on the face of the earth, and daughters were born unto them, that the sons of God saw the daughters of men that they were fair; and they took them wives of all which they chose."

Lethbridge then asks the question of who these sons of God were, a question that no theologian had, apparently, managed to answer for him. He makes the assumption that these sons of God were literal and really did mate with the earth women, who bore them offspring. It would seem that Genesis is no different in this aspect from the vast majority of creation myths from around the world. Indeed, offhand, I am unable to think of any which does not involve the Gods mating with earth women. This then may be a plausible explanation of 'evolution' - that some other race from another planet visited earth and reproduced with earth women.

In 1979 Erich von Däniken went further in his 'Prophet der Vergangenheit' and suggested that human 'evolution' was the result of direct genetic manipulation by a superior intelligence from space. [62] Since this time a number of other writers have dealt with the issue. Dr. Johannes Fiebag has gone so far as to suggest that pre-human evolution was a result of a superior race using earth as a kind of experimental research station. [63] Martina Steinhardt suggests that there may be evidence of such genetic manipulation in that series of diseases in which our bodies would appear to have an allergic reaction to their own organs. Her argument is based on the fact that the implantation of foreign genes into a body causes rejection and she suggests that the group of diseases she lists may be the result of our bodies still reacting negatively towards these long-ago implanted foreign genes. [64]

Re-reading some of this literature after a space of over twenty years and reading some of the newer material I still find it full of speculation. It is interesting material, but, as with the evolutionary theory described above, seems to lack concrete proof. What is interesting is that a great number of scientists from various fields would now seem to subscribe to at least some parts of it. It would seem that there is plenty of evidence to suggest that there was interference from outside at various stages of human history, but it is, as yet, insufficient to categorically surmise that our 'evolution' was enabled by another civilisation.

The British astronomer Fred Hoyle has suggested that our planet is bombarded by viruses from space and that these viruses may be the cause of dramatic genetic changes. [65] [66] This is a theory which seems to be most plausible. He argues that organic material exists everywhere throughout the milky way and that this matter is biological in origin. There exist on our planet a vast number of micro-organisms which have no possible reason to be here, if everything has evolved in reaction to the environment, as Darwin argued. It is, perhaps not for me to go into all the arguments, but when Hoyle says that: "*Viruses have all the properties needed for them to serve as the vehicle of evolution.*", I suspect that he may well have found the missing 'motor mechanism' of 'evolution'. [67]

There is too, of course, a large, but perhaps decreasing, body of opinion which would have man created whole and complete by one of the various Gods of the differing religions; that there is a holy spirit, or force, an almighty, which has created or caused us to come into being. These are the traditional Christians, Jews, etc. For these Fundamentalists our origin is a matter of belief and not of rational thinking. I cannot help thinking that religion requires belief of a kind similar to that exhibited by the members of the Ancient Astronaut Society. Christians read the Bible as a collection of fables and tales. They are at one and the same time both real and spiritual. It is both history and spiritual guidance combined. For the spacemen theorists the Bible is also a major source, along with many other essentially religious texts. They read these texts in a literal way - the many references to people flying around in the heavens and the appearance of angels are for them real events aided by the flying machines of high technology. The theory is almost like religion without the spiritual bit - a kind of deconstructed religion.

Peter Fuller writes brilliantly about the deconstruction of Christ in 'The Christs of Faith and the Jesus of History'. [68] What shocked me when I first read this essay, was not that Fuller should write it, but the doubt about the existence of Christ amongst the church's theologians themselves. If they can envisage a church in which the lynch pin of the faith is doubted, then there is little wonder that the force of the Church has been slowly undermined.

Fuller and his theologians and the members of the Ancient Astronaut Society have in their different ways applied rational logic to the Bible. Theirs is a totally materialist stance which leaves no room for the spiritual. It is a way of viewing the world which has become ever more prevalent in the 20th Century - rational materialism at the expense of all else. I shall be returning to this theme again shortly.

Yet another group of thinkers are able to equate the notion of an almighty with Darwinian evolution and Eccles is a good example, being both an evolutionist and a Christian. He seems able to equate an evolved human as a materialist-based entity who has a spiritual, non-materialist, capacity that is God-given.

An even more wicked thought has occurred to me several times during my reading for the preparation of this text. It has no scientific basis and yet would seem quite plausible. A brain that has been shown to be capable of self-healing, of levitation and of denying the sensual experience and physical consequences of extremes of pain and heat, might also have a volition towards its own evolution.

Whilst I have expressed my doubts about the correctness of the evolutionary theory the American biochemist Michael Bele is about to publish his new book in England, which argues, rather more convincingly than I, that Darwin was incorrect. His thesis is based on the biochemical structure of molecules, which he claims are irreducibly complex and could not possibly have been evolved through a series of modifications over time. As individual parts the structural elements of the molecules would simply have no function and have use value only as operational elements in an overall function. So convinced is he of his findings discrediting the Darwinian theory that he has challenged Richard Dawkins to a televised intellectual duel. Dawkins has declined, claiming not to know enough about biochemistry. [69]

I leave it to you to decide which version of "evolution" you prefer. It may seem that I have dwelt unduly long on a subject that seems far from the language of sculpture, but, as we shall see, my exploration of the biological factors involved in aesthetics requires a stable base for its foundation. I suggest that this lies in our genetic structure and that this structure is, at least in the period in which sculpture has been made, essentially stable.

The Darwinian evolutionists say that, *"Biological evolution has apparently ceased in the last 40,000 years."* [70] Fiebag puts the number of 'interventions' from space at a maximum number of ten and this would seem to be in accord with those major stages of evolution as put forward by the Darwinists. For my purposes it would seem that our genetic make-up has undergone no radical transformations within the historical period and that my hypothetical Egyptian sculptor's genetic make up and those bodily systems dependant on it, were the same as mine. We can therefore talk of a genetic constancy. This now leaves me with the complicated task of showing how much our genetically determined common biological systems are causal of how we are able to view the world. Before discussing this, however, I must deal with one or two other matters.

Chapter 4 Our genetic inheritance

"If as neuropsychologists we study the behaviour of simple organisms, even honey-bees, we can plausibly account even for the most complex behaviour by the concept of inherited instinct with a superimposed learning. The instinctive performance of an animal is based on the ontogenetic building of its nervous system and related structures by means of genetic instructions. And learning can be the increased effectiveness of synapses following usage."[71]

The other questions I should like to raise in connection with genetics and evolution are to do with the specific nature of the material that is genetically transferred from parents to offspring. If culturally learnt values might be genetically encoded and inheritable, my appreciation of the Egyptian sculpture may be due to my having a prior knowledge of it within my genetic coding. As we shall see this is a misconception.

I have already mentioned Lamarck. Now if, as Lamarck suggested, the functioning of our bodily capacities are improved by practise in use and this improved performance is then passed on genetically, then these improvements must come about as a result of more effective response to the environment. I shall begin by looking at whether the environment itself, (and here I mean the environment in a physical sense), can, therefore, affect our genetic coding?

According to Eccles a small isolated group of a given species will have limited breeding possibilities and dominant genes will be passed on at a faster rate. (One assumes that these are advantageous genes, for here the same must be true for retrogressive genes.) Crucial to the idea of evolution in small isolated groups is the notion that the environment itself can affect the genetic code of a species. Lamarck said that this is possible whilst Weismann, said that it is not. Of course we know that animals and humans adapt to their environment, but is this adaptation at a genetic level and the adaptations, therefore, inheritable?

There is another problem here, one which I have already mentioned above. If evolution is supposed to occur in isolated groups then this implies the notion of a steady continuous genetic change, something which both Eccles and Dawkins say variably did and did not happen. It appears that they want it both ways - that evolution is both a gradual process and one of sudden bursts. Leaving this aside, let us continue.

Of real interest here is Dawkins' discussion of the role of enzymes in the developing embryo. The notion of the genetic material being affected by its chemical environment within the cell is surely an example of the environment affecting the genetic material. But we must distinguish here between the environment enabling certain inherent genetic processes, as in the case of Dawkins' embryonic cells and the environment actually changing the genetic structure. Whilst Dawkins' 'loading programme' instructs the genetic material, it enables but does not alter its nature. There is, however, the possibility within this complex process of structural changes occurring in the genes, as in the case of oxygen deficiency and disease:

„Az embrionális fejlôdés rendkívül bonyolult fizikai és kémiai folyamat. A bármely pontján lezajló aprócska változás jelentôs további következményeket von maga után. Ez nem meglepô, ha vissza emlékszünk, milyen kimerítô programbehúzás elôzi meg e folyamatot. Az egyed fejlôdés különbségei zömmel környezeti különbségeknek tulajdoníthatók, amilyen az oxigénhiány vagy a talidomid hatása az embrióra. Más különbségek a genetikai eltéréseknek tudhatók be - itt nem csupán az elszigetelt génekre, hanem a gének összjátekára és a környezettel való kölcsönhatására gondolunk.. Az olyan

összetett, kaleidoszkópikus, szövevényes és kölcsönös programbehúzással vezényelt folyamat, amilyen az embrionális fejlôdés, egyszerre átütô erejû és érzékeny. Átütô erejû, mert néha lehengerlôen hátrányos környezeti hatások ellenére is életre segíti a csecsemôt. Másfelôl érzékeny is a környezeti hatásokra, hiszen nincs két teljesen egyforma egyed, még az egypetéjû ikrek sem." [72]

It is time to look at Smith's moths more closely. The argument is that the moths adapted beneficially to their new environment - that they were too easy prey for their predators against the black sooty trees of industrial England and thus, a group of them at least, turned black and this new colour was passed on genetically. Now those who have lived in the industrial parts of England will know that the fight of the ecology lobby has had considerable effect in recent times and one no longer finds black sooty trees. Our black moths would once again be easy prey for their predators as their blackness is no longer a camouflage, but a distinct disadvantage, in a cleaner environment. We would therefore expect this black strain of the moth to revert to its original colour. Here lies the difficulty. If the black strain disappears there is no way of telling whether it has changed genetically back to its original colour, or is simply dying out because its predators are hunting it more effectively. Darwin and his strict followers would have it that in the latter case the genetic change has proved environmentally disadvantageous and this black strain will therefore die out, due to the notion of the survival of the fittest. In the first case the motor force that caused the original adaptation should also be capable of reversing it and if it does it would seem that no evolution has occurred in the strictest sense in the genetic configuration of the moth; that it is merely adapted and re-adapted to its changing environment. If change has occurred in the genetic structure and is not reversible then the black moths will simply be huuted out off existence by their predators.

Now Smith argues that this change was caused by a dominant gene. It therefore follows that the capacity for such a change was inherent in the original moth; that the original moth contained a gene for blackness and was thus able to adapt to its changed environment. This means that Smith's moths underwent changes caused by environmental factors. However the gene for blackness was extant in the moth and the environment merely activated a new genetic configuration perhaps in a similar way in which the enzymes in Dawkins' embryonic cells activated certain gene combinations required by the specifics of function within the workings of the body. This blackness was then seemingly passed on genetically in a specific group of the moths. Their actual gene bank did not change in its content, merely different combinations were activated, caused by environmental changes and that these modifications were inherited quickly by new generations. The two strains of the moth have the same genetic constitution, but their genes have become differently configured and if we believe Eccles, they must at some point stop inter-breeding.

I cannot help pondering the question that what must be thought of as real evolution might be something else - an irreversible change in the gene structure itself. The apparent fusion of two chromosomes within human seems to be of a far more drastic nature than the activation of extant genes for a certain colour within the moth. In the moths' case the environment affected the gene combinations, whilst in the case of the human, the argument goes, radical chromosomal fusion took place. What in the environment may have caused such a radical, seemingly advantageous, mutation? Eccles observation that such beneficial mutations seem to be rare, does not really answer the question. So we must pose the earlier question again - is evolution something which must be understood as causing major changes in the chromosome compliment, or a series of

minor variations in the combinations of the genes with each other, or is it indeed a combination of both.

It would seem then that two possibilities exist. That the environment can affect our genetic combinations on the basis of extant genes, or that we have evolved through a series of genetic mutations. If the first case is true this would mean that the original proto-homo must have had all the necessary genes for our subsequent development; that we must also have a genetic trace history of that development and that so must any other species that truly derived from this same original, which would mean that the pongids, if they are derived from the same original source as we are, must also contain all the genetic information necessary to, potentially at least, become human and that by implication pongids can be made into humans through the rearrangement of their genetic combinations, and vice versa. Dawkins would appear to subscribe to this theory;

„Meglehetôsen bonyolult genetikai mechanizmus felelôs például a rovarok szelvényezett testfelépítéséért. Kísértetiesen hasonlatos genetikai hatásmechanizmust találtak az emlósokben is. Molekuláris szempontból minden állat igen közeli rokona egymásnak, mi több, a növényeknek is. A baktériumokig kell visszamennünk, hogy távoli unokatestvérekról beszelhessunk, és a genetikai kód maga még ez esetben is megegyezik a mienkével." [73]

We are back to the question of the motor force of evolution, which evolutionists say is the environment itself, which causes beneficial adaptations to itself, in one way or another. We know that diseases and viruses can cause structural change in the genetic system which affect its normal workings. This begs the question of whether or not there are such things as advantageous, i.e. "beneficial viruses", or is there, indeed, something else of which we are unaware which is the driving force behind evolution? What actually caused the genetic mutation which Eccles claims would seem to have occurred when two of the chromosomes of the pongids fused to make the human compliment of 46? It is the answer to this crucial question which seems to be missing from the evolutionists theory. One may speculate freely - perhaps our genetic system contains its own built in volition towards evolution. But such speculation takes me further and further away from my real concern here.

If the environment affects the evolutionary process, as the evolutionists would have it, it begs the question of what specific information is inheritable. A species has, supposedly, adapted progressively in reaction to its environment at a genetic level and these adaptations are passed on. An individual within the species will also learn through experience and my next question is whether learnt experience, i.e. culturally learnt information, can be passed on genetically? If so, this might again explain my ability to appreciate the work of my hypothetical Egyptian sculptor.

"The modern Darwinian theory of evolution is defective in that it does not even recognise the extraordinary problem that is presented by living organisms acquiring mental experiences of a non-material kind that are in another world from the world of matter-energy, which was formerly globally comprehensive." [74]

Lamarck, as I have already said, suggested the idea that the processes of the body improve through practice and that this continually improving performance is passed on to successive generations. The difficulty is to distinguish between that which is genetically inherited and that which is learnt. Smith puts the problem thus:

"Much the most important modification arises from cultural inheritance, because the traits that are acquired during a lifetime and then transmitted are often adaptive in nature: an animal that knows which berries are edible is more likely to survive. Given sufficient capacity for learning and cultural communication, a population can adapt to its environment by non-genetic means. The mechanisms of history and of evolution are so different that it is best to distinguish between them. However, they may interact." [75]

For my purposes this is one of the crucial questions; whether such learnt experience actually affects our genetic coding and is passed on through our genes, or that this learnt experience is passed on in the same way as language. Here again Eccles helps.

"It is important to recognise that the speech areas of the human brain are already formed before birth, being ontogenetically developed ready for the learning of language. This is a genetically coded process, and, amazingly, the speech areas so grown are competent for the learning of any human language. It has been established without doubt that children of different races are equipotent for all human languages. Chomsky... has utilised this fact in formulating his ideas on the general principles of a universal grammar. I would suggest that the deep structure of grammar can be homologized with the micro-organiztion of the linguistic areas of the brain. In that sense it can be understood that a child is born with a 'knowledge' of the deep structure of language because this is encoded in the microstructure of the linguistic areas of the cerebral cortex that genetic instructions have already caused to be built before birth." [76]

It would seem then that both Smith and Eccles make a distinction between that which is genetically given, (in Eccles' case a capacity to formulate language), and that which is later learnt, and one may be inclined to leave the matter here. Again, it is not so simple as it begs the question whether the development from the grunting and sign-language of proto-humans to the sophisticated speech patterns of the human was in itself developed through the learnt experience of practice, or through genetic change. We are back to the point that the proto -humans and similarly the living pongids, must all have had the same inherent genetic capacity. Experiments with teaching pongids to speak have proved unsuccessful in any real sense. [77] **Here, this fact would seem to back his argument. Pongids may have the latent genetic capacity to use sophisticated language, but will be unable to do so until they undergo a genetic restructuring similar to that which occurred in the speech areas of the human, in the past. One should note here that the inability of pongids to learn human language is not a measure of lack of intelligence in them, but rather in the experimenters who subject them to such degrading experiments - and here I mean degrading for the human race as well as the pongids.**

On the question of the relationship between the genetically inherited and the learnt, I am inclined to agree with Smith and Eccles. Margenau introduced the idea of instinct in the quotation at the head of this chapter. We inherit a genetically coded given system, which system, itself, allows certain instinctive behavioural patterns. These must be distinguished completely from that which we learn culturally. What is learnt culturally does not affect genetic structure. We have the genetic structure which creates the necessary systems for the learning of language, for seeing, for sensual response to our environment, etc., etc., but we must then utilise these capacities and from practice in utility, improve and learn. There is no evidence that this culturally learnt experience may be passed on to future generations genetically. What will be passed on genetically are the systems themselves and their inherent capacities.

There is a final question which arises from this brief look at genetics and evolution and it is the most complicated. It is the question of whether the nature of the genetic system itself, with its structural limitations, is causal of the way in which we view and act in the world?

Our present genetic structure creates certain physical and mental facilities in each human being. These may be taken to be relatively constant, except in cases where disease had caused some genetic malfunction. We all, of course, have shades of difference in hair colour, eye colour, in the size and shapes of our bodies and limbs and so on and so forth. A considerable number of men are colour blind. These differences are the individuality caused by slight variations in each of our genetic patterns. Some unfortunate people may be born totally blind or deaf, whilst others may have serious limb deformations. These are the result of genetic defects - of the wrong information being passed on, or of harmful genetic patterns arising during the fusion of the genomes during reproduction.

One cannot deny the differences between us and contrary to what I shall be arguing hereafter, one may never be completely sure that what I am seeing is the same as the next man is seeing. I should, however, now like to argue that there is a great deal in us that is common. We have 46 chromosomes in common. Whilst some of us may have a dominant gene for red hair colour and some not, my and your bladder, providing that we are both healthy, will certainly work in the same way, although they are probably of a different size. You, as a child, may have become more practised than I in the art of retention, or, maybe, the opposite is true. We might make a simile with our noses or, indeed, compare two motor cars. Your nose may be shorter or longer than mine. Its skin covering may be different, as may its shape. But in function there is a unity. Both noses have the same job to do and their modes of operation are the same, even though they may differ in effectiveness. A Rolls Royce Silver Shadow looks quite different from a Ford Escort and yet they, too, are united in function - that of transporting people from one place to another. Here not only their visual appearance is different, so too is their mechanical structure. The Rolls has a bigger more powerful engine, but the principal of the respective internal combustion engines is the same. They basically work in the same way.

A simple example will help to illustrate how the similarities between us as members of a species, outweigh the differences. Providing that we are born healthy we will all share a common optical system. The system is based on the same principles for all humans. There may be slight differences, again, as some of us may be short, or long sighted, the distance of one eye to the other may vary slightly or my optic nerve may be longer, or shorter, than yours. These are minor variations, which do not detract from the basic structure of the system itself. The easiest way to realise the nature of this basic structure is to compare the way in which the human eyes see, to those of other animals. Some mammals, such as the larger whales, whose eyes are placed on the side of their heads, do not see in the binocular way that we do. Each eye works separately, the left eye seeing that which is to the left and the right eye, that which is to the right. I saw, sometime ago, a wonderful film on the subject on T.V. (Unfortunately, I missed both the beginning and end and cannot, therefore, be more exact). With a series of specially prepared camera lenses the film recreated the 'vision' of various animals as they moved through their native environment. The bird of prey had a very wide field of vision coupled with, at a certain point on its retina, a kind of telescopic area which magnified small areas of the wider field many times. This enabled it to pinpoint a small mouse on the ground, from a great height, before making its deathly dive. From this illustration we can see that there are certain binding features of our optical system which actually determine the way in which we may physically view the world around us. Our naked eye

does not have the capacity of the eagle's and the eagle is unable to see in the way that we do.

What is true for the human eye is true of all our bodily and mental functions, with of course some differences between the sexes. They are systems which are common to all of us. (Here we must consider blindness as a system malfunction.) What is more, the inherent nature of these systems determine how they may be used. However much we may wish it to, our eye will never see in the same way as the eagle's, unless aided by trick photography, or through simulation with an optical instrument, such as a telescope.

Our optic system itself, with its wonderful qualities and, indeed its limitations, directly affects the way in which we view the world and, by implication, sculpture. In the same way the physical and chemical structure of our brain ultimately determines the way we use it, for example, the way we formulate ideas and think. These functions and, by implication, the language of sculpture, are deeply affected by the nature of these systems themselves. Whilst I have expressed my doubts concerning the Darwinian theory of how we came by them the nature of the systems are, undoubtedly, ultimately determined by our genetic make-up.

Chapter 5 The Brain

"The identity thesis which I wish to clarify and to defend asserts that the states of direct experience which conscious human beings 'live through', and those which we confidently ascribe to some of the higher animals, are identical with certain (presumably configurational) aspects of the neural processes in those organisms...processes in the central nervous system, perhaps in the cerebral cortex..." [78]

The human brain is an extremely complicated biological system and one that is rather easily damaged. [79]It is one of its wonders that it has built into it a capacity for self analysis. Having said that, it is also very difficult to study scientifically. Medical ethics rule out extensive experimentation on the brain and much of our knowledge of it is gleaned from studying and trying to heal defects. For this reason there are large areas of the brain whose functions are little understood.

It would seem that our brain has many functions which we tend to refer to as paranormal. Meditation would appear to transform the normal functions of the body and enable such phenomena as levitation, flying, immunity to pain and extremes of temperature and self healing. The brain would seem to be capable of what we have come to know of as Extra Sensory Perception, of kinesis, (the moving of objects by thought) and of producing photographic images by thought. I do not wish to study these phenomena here, but to concentrate on those aspects of the brain about which there seems to be a consensus of scientific opinion, and here only to those areas directly connected to my study of the language of sculpture.

I should like firstly, with the help of Eccles, to briefly examine the structure of the human brain and the way in which this affects how and what we see. I shall later look at how this determines our ability to understand the language of sculpture.

Eccles makes a distinction between the functions of the left and right sides of the brain, which is crucial to my discussion of the way we create and perceive sculpture and indeed, in how we view the world. The brain can be viewed as existing of two halves, which in themselves may be subdivided according to the function they determine. These two hemispheres are of course connected and information would appear to pass between them chemically. The control centres of our various bodily functions are situated in different areas of the two lobes of the brain. The two lobes are not mirror images of each other, their functions being quite different, as we shall see.

"We can say that the right hemisphere is a highly developed brain except that it cannot express itself in language, so it is not able to disclose any experience of consciousness that we recognise..... Because of its deficiencies in these respects (i.e. the inability to verbalise), the minor hemisphere (the right) deserves its title, but in many important properties it is pre-eminent, particularly in respect to its spatial abilities with a strongly developed pictorial and pattern sense. For example, the minor hemisphere programming the left hand is greatly superior in all kinds of geometric and perspective drawings." [80]

This is the crucial distinction on which I shall be concentrating at length in the pages that follow. The left side of our brain would appear to control language and rational thought, whilst the right side has no language, but is the seat of most of the potentials we use in the language of sculpture. What is also of vital importance is the implication in this statement that the left brain would appear to deal with our conscious procedures,

whilst the right brain is the realm of the subconscious. Jerre Levy makes a more detailed distinction;

"The right hemisphere synthesises over space. The left hemisphere analyzes over time. The right hemisphere notes visual similarities to the exclusion of conceptual similarities. The left hemisphere does the opposite. The right hemisphere perceives form, the left hemisphere, detail. The right hemisphere codes sensory input in terms of images, the left hemisphere in terms of linguistic descriptions. The right hemisphere lacks a phonological analyzer; the left hemisphere lacks a gestalt synthesizer." [81]

It would seem then that our ability to perceive form and to perceive gestalt images is seated in the right side of the brain. Our left side is capable of making linguistic descriptions and analysis of what the right side has, subliminally, perceived.

In a diagram based on Levy, Eccles locates, as well as certain other capacities, the following functions into the right hemisphere: pictorial and pattern sense, visual similarities, synthesis over time, holistic images, the geometric and spatial, and the musical.

If Eccles and Levy are correct, this would suggest that the right hemisphere of our brain has a crucial role in the appreciation of the language of art. It would appear to be here that our capacity for pre-conscious perception is rooted - that we are able to receive stimuli here and to react to a sculpture as a holistic image, as a gestalt. Sculpture, as a visual language is of the right brain, unlike other languages which are of the left. Sculpture is not governed by the rational, for the right side of the brain is incapable of rational analysis. Sculpture as image is pre-linguistic and pre-rational. It is whole. The role of the left side of the brain in the sculptural language allows us to later evaluate our experience of the sculpture in a rational way, based on linguistic analysis.

Before I look at the significance of this I should like to return to one of the problems that arose when looking at genetics and evolution - the question of that which is genetically given and that which is learnt.

Eccles is quite specific about this and distinguishes between that which is genetically given and that which is learnt, by reference to Popper. He reiterates the idea of the three worlds, developed by Popper in their joint work of 1977 [82] Popper shows how we receive and analyse information. To illustrate the process he splits the brain's functions into three categories, which Eccles describes thus:

"It is necessary at the outset to introduce the three-world philosophy of Popper, which encompasses all existence and all experiences. World 1 is the world of physical objects and states including even human brains. World 2 is the whole world of subjective experiences or states of consciousness. World 3 is the world of knowledge in the objective sense. It is the whole man-made world of culture including language." [83]

Eccles then makes this important distinction;

"At birth the human baby has a human brain, but its World 2 experiences are quite rudimentary, and World 3 is unknown to it. It, and even a human embryo, must be regarded as human beings, but not as human persons. The emergence and development of self-consciousness by continued interaction with World 3, the world of culture, is an utterly mysterious process. It can be likened to a double structure that ascends and grows by effective cross-linkage." [84]

He later expands on this relationship between the given and learnt,

"...biological evolution has created the human genotypes that build human brains with propensities for learning of languages, for altruistic behaviour, and all other cultural activities, which would include the value systems moulding and governing society...cultural evolution is dependant on the hominid cultural achievements and is not at all genetically coded, which would be Lamarckism. It is entirely transmitted by instructions and learning. There are no genes for language, only for the linguistic areas that make it possible to learn any human language." [85]

Here Eccles reaffirms that which I have already suggested, that there is a given brain structure inherited and passed on by our genetic coding. This has the capacity to learn, think, feel, remember, dream, imagine etc., just as we have a capacity to see, hear, taste, etc. There is a given genetic structure which capacitates these activities, but the exercising of their use is learnt through experience.

To better understand how this brain structure orders the way in which we view the world, I should like to look in turn at each of the three Worlds of Popper. We must understand that Popper was trying to establish a system of classification by which we may categorise experience of the world and everything in it.

The first World is that of physical objects and states. It contains all that which is given. It is our inheritance. He subdivides this into three classes. Firstly there is the 'Inorganic'. This contains all the matter and energy of the cosmos and may be viewed as being governed by the laws of physics. The second sub-category is the 'Biological'. To this class belongs the structure of all living beings, i.e. the organic, and includes our brain. The third sub-category is rather more difficult. He calls it 'Artefacts' and it contains the material substrates of human creativity, of tools, of machines, of books, of works of art and of music. That is to say that the physical existence of a book, a musical score, or a sculpture belongs here, but not our reaction to them, or the act of reading the book. It is their status as objects or things which belongs in World 1.

When we are conceived, develop in the womb and are born, we inherit World 1; genetically in the case of our bodies, and environmentally in the case of the rest. World 1 is our physical self and the physical world into which we are born.

World 2 is the world of States of Consciousness and within it that of subjective knowledge. It contains our experience of perception, thinking, emotions, dispositional intentions, memories, dreams and creative imagination. It is the world through which we collate experience of World 1 and World 3. It contains all of our subjective experience, including the conscious, sub-conscious and our self-consciousness. At birth we have little World 2 experience. It is confined to our experience of being in the womb; experience which would appear to be vital to the theories of psychologists.

World 3 is the world of knowledge, but knowledge that is objective. It is not knowledge gained through experience, which belongs to World 2, but knowledge in the sense of cultural heritage. It is what Popper calls 'Knowledge in an Objective State'. It is a knowledge founded in the material substrates of philosophy, theology, science, history, literary, art and technology.

It is perhaps difficult to grasp the distinction between the three worlds and may be better understood through an example. Let us take the example of a book. Its physical existence - the book itself, unread - belongs to World 1. The knowledge, or information, it contains belongs to World 3. When we read it the experience we have of the book belongs to World 2. When we are born, as with World 1, we also inherit World 3, but we

are totally ignorant of its existence. World 3 exists in fact, but has no meaning to us until we learn its secrets.

To properly understand World 3 we must emphasise that this cultural heritage must be viewed as being based in material substrates. But what are the material substrates of, say, history? The history as portrayed in books is essentially subjective and might therefore be considered to belong to World 2. But this is not the point of Popper's World 3. Popper's World 3 must be viewed as a kind of repository or store in which we find all the extant knowledge of those who came before us. The book as a physical thing belongs in World 1, but its contents belong in the repository of universal knowledge from which we may, or may not, take as we please. To re-cap. Popper's classification itself, belongs to World 3. The paper on which it is written belongs to World 1 and my discussion of it and your reading of this belong to World 2.

Popper's classification is a very useful way of viewing our experience the world, and of viewing the way in which our brain works, although, as with all logical systems, its rules, if adhered to, may actually stricture the way in which we view. It makes particularly clear that distinction between that which is inherited, that which is learnt through experience, and that which is available knowledge which, should one desire, may also be learnt.

I should now like to return to sculpture. Based on the above the sculpture, as object, belongs in World 1. Any historical knowledge of it and its coming into being belongs to World 3. Previous criticism and evaluation of it also belong to World 3. Our looking at and experiencing the sculpture is essentially World 2 experience. (I shall be arguing later, when I look more closely at the brain, that this may not be a strictly correct understanding of Popper.) Afterwards we may consult World 3 for more information about the sculpture. When we view it and put it in a context of other art, our knowledge of this other art also once belonged to World 3, but is now of World 2 as it is knowledge that we have learnt and which has therefore become subjective. Our conscious perception of the work, and all thoughts that it may arouse belong to World 2.

We will recall that the right side of the brain is responsible for what Sperry calls, *'non-verbal ideation'*.[86] It would appear that the right side of the brain contains all the necessary functions to enable a response to sculpture that is not only visual but also of a gestalt nature. That is to say we are able to recognise the sculpture as a whole in which all its parts are related to each other and constitute a whole. This is the 'image'. Such an image can undoubtedly cause a profound emotional reaction, which might also be considered to be of a spiritual nature. This is prior to any attention to the details of the sculpture, which would appear to happen on the left side of the brain; prior to any rational evaluation; prior to any comparison to other sculpture, or relation to the knowledge of Popper's World 3 which, requiring language, is also a function of the left hemisphere.

I shall be arguing later on that the language of sculpture, and in particular the way in which sculptors create sculpture, is largely dependant on the functions of the right hemisphere of the brain. I also suspect that one of the problems with the modern way of thinking is that it relies far too much on the functions of the left side of the brain - that we have become so used to the rational, and to language-based evaluation that we have almost forgotten the importance of those functions, described above, of what Eccles terms the *'minor hemisphere'*.

Before we leave the subject of the brain I should like to bring in one more theme, which has already come up in passing. It is that to which the quotation at the beginning of this chapter refers. It is the idea that the configurational aspects of our brain and various organs actually determine the sort of experience that we are able to have. I have

already suggested that the way our eye functions actually limits how we see, a theme I shall be expanding on in the next chapter. I should now like to pose the question of whether the configuration of our brain actually limits what we can do with it.

I suggest that the answer to this question is in the positive. We all have a notion of what we call logical or rational thinking. It is perhaps most easily illustrated by a simple mathematical example. If we have a pair of apples and add to them a second pair, we then have two groups of two apples - four apples in all. If we take the four apples and split them into two equal groups we then have two pairs of apples again. This is a logical argument, with no room in it for doubt. ** The first sentence of this paragraph is not logical as it is an expression of opinion. It may be an opinion arrived at after a great deal of logical thought of a rather more complex kind than is involved in the example that I have just given here, but it is still an opinion and therefore not strictly logical. The process of logical thinking is rather like climbing a rickety ladder. One takes the first step and checks that it is sound before moving onto the next and so on and so until one either reaches the top, or one falls down should the logic be faulty. I should say here that I do suggest that those climbing rickety ladders are more logical than my simile and check each step before treading on it, something which one cannot do with thoughts.

At this point my logical thinking tells me that this method of rational thinking is almost certainly learnt. As children we do not really think or react to the world in this logical way. I am sure we can all remember moments in our childhood when the rationale of something or other 'dawned' on us. This 'dawning' was the recognition of certain logical thinking patterns. And yet. The fact that rational reasoning probably has to be learnt, in no way explains its origin. Where does this capacity for rational reasoning come from if not from our biological system itself? Surely we do not think that someone discovered it and taught it to everybody else, unless of course we wish to see it as God given, or as a 'gift' from some ancient astronaut. It would seem to me that the only origin for our ability for rational thought is that the pattern of this kind of thinking is analogous with the pattern of the brain which allows it.

It might be easier to prove my argument if we were capable of thinking only in a rational way, but our brain and its capacities, and the variety of these mental capacities, would seem to be enormous. One might even be tempted to argue that the brain contains the material necessary for its own evolution - that 'evolution' is not based genetically, but that the brain has its own volition to evolve, an argument which would be well within the bounds of Lamarck's theory, but as I said earlier there is little scientific evidence for this.

Margenau has argued that the our brain, neural systems and sense organs have constituents which are governed by probabilistic quantum laws. [87] What would appear to happen when we think is that the thinking actually causes neural activity. Thought, according to Margenau and Eccles actually utilises the brains energy to stimulate neurons. I have no idea how this may be proved, but it really would seem to be a case of 'mind over matter', and this thesis must be considered to be revolutionary in the study of the interaction between brain and mind.

"We all think and act as if we have at least some control and responsibility for our actions, especially out linguistic expressions, but reductionist critics have insisted that this must be an illusion since it is contrary to the conservation laws of physics. We are now free to reject these criticisms." [88]

** It is, in fact, tautological.

If the theory is correct it suggests the existence of a mind which is somehow apart from the biological system - a mind which can give orders to it. At the same time this mind is a function of that system and whilst the relationship between mind and brain may be biologically more of a two way thing than was previously realised, the mind cannot operate without the system itself. It is dependant on it and must, therefore, also be limited by its nature. The system, as with any system, can only give rise to certain patterns and these are the patterns in which we must think, sense, and experience the world.

I should now like to expand on these themes by examining the optic system and to show how this too limits the way in which we see the world.

Chapter 6 The optic system

"I have always claimed that painting's prime function is to dictate to us what the world looks like. Each artistic generation recreates what it believes to be the natural appearances of the world, sometimes radically, sometimes only slightly, but none the less decisively. A given version is mandatory at a given time. What we imagine to be the 'objective' look of everything and anything is largely complex, a weave of textures, forms and colours which we have learned, more or less unconsciously, from painting, and have superimposed upon external reality. The actual *'objective' appearance of things (of anything and everything) is something that does not exist - or rather, it exists as data that is literally infinite in its complexity and subtlety, in the variety and multiplicity of its configurations. What assuredly floods in upon the retina, from the outside world, is an amorphous cloud of visual stimuli into which the human eye learns to* inject *a favoured order of some sort or other. Historically, it is painting that supplies that order. It is* painting *that persuades the eyes of a generation to see swarms of ragged dots of disparate colour overlying the entire scene, indoors or out, where none exists. It is painting that persuades another generation, elsewhere, that every solid object inhabiting the visual scene, in which we move, must have a black outline round it. It is painting, yet again, that licensed certain generations to believe that the entire landscape consisted of various browns. It is painting that cajoled the eyes of yet another age to see all solid objects, whether near or far, in terms of nothing more formally definite than a continuum of coloured mists. Yet all these configurations nevertheless have been abstracted out of the infinity of possibilities which compromise the visual scene."* [89]

"The visuo-constructive areas of the cerebral cortex are not as clearly defined as the speech areas which were mapped first by the study of lesions and then later by electrical stimulation as described by Penfield and Roberts (1959). However, the study of lesions that gave disorders of movement (apraxia) and more recently of commissurotomy patients has disclosed that the visuo-constructive areas are largely in the right hemisphere and particularly in the inferior parietal area. probably the main location is in Brodmann areas 39 and 40 which are automatically mirror-images of part of the Wernicke speech area of the left hemisphere. These synthetic visuo-constructive areas can be considered as developing in evolution pari passu with the analytical speech areas on the other side." [90]

0 I have suggested that the structure of our optical system determines, in part, the way that we view the world and I should now like to expand on this. Inevitably a rather large dose of technical language is involved.

I have already pointed out that our vision is stereoscopic.

"....the visual pathways are arranged with a partial decussation in the optic chiasma so that the right visual fields of the two eyes project via a synaptic relay in the lateral geniculate body to the primary cortex of the left occipital lobe, and vice versa for the left visual field." [91]

Put simply the information received by both eyes to their left, is passed to the right side of the brain, and vice versa for information from the right. This stereoscopic vision has to be learnt. Young children do not see in a three dimensional way and their eyes must be trained to see form and space as we understand it. Naturally this learning capacity is

built into the system itself, i.e. it is genetically conditioned, although the learning itself, is not.

For any discussion of sculpture as a visual language the way in which the eye perceives shape, line etc., is a fundamental concern. It would seem that we are equipped with groups of neurons which are specifically programmed to accept certain kinds of information:

"In the visual cortex, neurons with similar orientation sensitivity tend to be arranged in columns that run ortogonally from the cortical surface. Thus it can be envisaged that, in the large area of the human primary visual cortex, the population of about 40 million neurons is arranged as a mosaic of columns, each with some thousands of neurons that have the same orientation sensitivity." [92]

"In the upper part of laminae IV.....are the simple cells that are strictly monocular and that simply respond to lines or edges.... At the next stage of image reconstruction are neurons at other levels in area 17 and in the secondary and tertiary visual areas (Brodmann areas 18 and 19). Here there are neurons that are especially sensitive to the length and thickness of bright and dark lines as well as to their orientation and even to two lines meeting at an angle. These so-called complex and hypercomplex neurons...constitute a further stage of feature recognition." [93]

"In the area TE of the temporal lobe there are remarkable feature detection neurons..... For example, there are neurons uniquely specified for squares, for rectangles, for triangles, for stars. More exotic are the small number of neurons that respond specially to hands or faces, or parts thereof." [94]

These findings are in part based on the study of the macaque monkey, (macaca mulatta) and there is a danger here in regarding them as being exactly equatable with the human system. Eccles points out the ethical difficulties posed by researching on human specimens and thus the conjectural nature of our understanding of the human optical system, although study of patients with lesions has helped to contribute to this knowledge. One does wonder, here, to what use a macaque monkey may put a capacity to recognise squares, rectangles and triangles in its natural environment, where it is hardly likely to meet with them.

A rather more interesting thought comes to mind. If our human optical system is programmed in such a way as to see these quite particular shapes, as in the case of the macaque, may not this system itself be the basic cause of our particular way of viewing the world. It would seem quite plausible that our eye is only capable of seeing certain patterns. Euclidean geometry might, then, possibly be a system which reflects the actual workings of our optic system itself.

To understand this better we must look more closely at what happens when our eyes, and indeed our central nervous system receive information. György Ádám explains the difference in status between the information as it is received to that which it becomes as it is processed. [95] **Firstly incoming information passes to the thalamus which acts as a kind of switching centre, passing information to the various parts of the brain.**

„A talamusz (thalamus = elôszoba; GALÉNOSZ) mindem olyan érzôimpulzus átkapcsolási helye, mely az agytörzs vagy kisagy felôl a nagyféltekék felé halad."

The thalamus has an important role to play in our sense perception;

„A periférias érzôpályákon kivül a talamusz az agyi hemisféríumok felôl is kap afferentációt, ezenfelül az extrapirimidális rendszer egyes ganglionjaival is kapcsolatban áll. E sokrétû kapcsolatok példázzák a talamusz nagy fontosságú, központi szervezô funkcióját az érzômûködések, a magasabb idegtevékenység ún. érzelmi komponensei, valamint a vegetativ aktivitás terén."

The thalamus must be thought of as a mechanism, or a series of functions. It is not, however, an organ;

„A talamusz tehát semmiképpen sem tekinthetô homogén struktúrának: többféle sejtcsoportot tartalmozó, bonyolult páros magrendszert alkot." [96]

For our purposes the pulvinar section of the thalamus is important, for here exists the switching mechanism for sound, in the corpus geniculatum mediale, and for sight, in the corpus geniculatum laterale. The precise function of the thalamus within the sensory system is unknown, although, Ádám relates, some researchers have suggested that it plays a role in our subjective, emotional responses and that our notion of the 'pleasant' and 'unpleasant' is seated here. [97] **Most of the information received by the retina passes to the corpus geniculatum laterale, but a small part is also passed to the collicus superior of the central brain** [98] **This, latter, information is then passed to those neurons of the spinal cord which are concerned with movement and allow the neck to adjust its position to enable the eye to see something from a better position, whilst the information passed to the thalamus is then sent further to different parts of the brain for processing in various ways.**

It would seem that the cells of the cortex are capable of learning to recognise certain patterns in the incoming information;

„Kiderült, hogy az emlôsállatok agykérgének oszlopszerû funkcionális felépitése oly módon rendezôdött, hogy egy-egy ilyen kolumnában helyet foglaló neuronok mindegyike valamély, a számára optimális, „legjobb", legmegfelelôbb külsô ingerre váloszol maximális csúcspotenciál-sorozattal. Másként fogalmazva: az agykéreg egyes *idegsejtjei képesek ingermintázat-felismerésre. Mint a továbbiakban látni fogjuk, a látó-, a halló-, illetve a szomatoszenzoros- kéreg egyes sejtjei képesek egyes egyszerû és bonyolultabb fény-, hang-, illetve machanikai mintázatokra szelektiv módon a rájuk jellemzô elektromos kisülési amplitûdóval és frekvenciával válaszolni. Bizonyitott tehát, hogy az inger* mintázata *(angolul: pattern), vagyis alakzata, idôbeli lefolyása, mozgási iránya, komponenseinek sorrendje stb.* együttesen *képes agyi neoronokat ingerületbe hozni és ingerületben tartani. Az agysejtek valószinûleg a korai ontogenezisben „választják ki" a számukra azután egész életük folyamán optimálisnak mutatkozó ingermintázat."* [99]

He then goes on to describe the way in which arriving sensual information is processed.

„A külsô ingerek hatására az agyi centrumokban létrejövô érzékelési folyamatot elsösorban 1) szervezett *(pattern) jellege jellemzi. Az agyi struktúrák a külvilág ingerkomplexumából mindig kiválasztják az egybetartozó, bizonyos szervezôdést mutató stimulusokat az oda nem tartozó zavaró vagy véletlenszerû ingerektôl. Innen adódik az érzékelési funkció 2)* szelektiv, *kiválasztó jellege. A szlektivitás valószínûleg az agyi neuronok differenciáló, valamint széli gátlási folyamatával függ össze. Az érzékelô apparátust továbbá 3) a* transpozició *képessége jellemzi. Az agy erzékelése mindig*

viszonylagos jellegû. Sohasem abszolút megkülönböztetést végzünk két ingerintenzitás között, mindig csak viszonylagosat. Ezt a pszichikus dimenziót könnyen átvisszük, transponáljuk más ingerintenzitás-sorokra is. A traszponálás képessége teszi lehetôvé az azonos szervezôdésû, egyébként részleteikben eltérô ingerkomplexumok azonitását, összehasonlítását (pl. különbözô kézírású azonos betûket, különbözô hangszeren és hangszerelésben megszólaló azonos dallamokat stb.). 4) Az érzékelési folyamat komponenseinek nagy része nem vele született, hanem tanult *jellegû. A szervezett, szelektiv módon kiválasztott ingerkomplexumokat érzékletté a múltban szerzett individuális tapasztalatok kovácsolják egybe."* [100]

So what Ádám is saying is that the individual cells of the system recognise sensual patterns in the various incoming stimuli on a selective basis based on recognition comparison and that the major part of this faculty is learnt through practice. He later describes the way in which the laminae of the optic nerve work;

„Jellemzô a függôleges, *rétegek közötti, oszlopszerûen rendezôdött rostkapcsolat. Valószínû, hogy a körülírt függôleges* sejtoszlopok *felelnek meg egy-egy retinális receptormezônek. Elektrofiziológiai elemzéssel sikerült a Mountcastle-féle kolumnaris szervezôdést itt is igazolni: HUBEL és WIESEL kimutatta, hogy egy-egy látókérgi oszlop összes neuronja egy idôben reagál és produkál akciós potenciálokat. Az oszlopok többsége vízszintes, ferde vagy függôleges* egyenes vonalra *reagál, sejtjeit „egyszerû" (szimplex) neuronak nevvezük. Ezeken felül találtak olyan* „komplex" *-nek nevezett sejteket is, melyek nemcsak vonalszerû ingerekre produkáltak kisüléseket, hanem bonyolultabb ábrarészletekre, mozgó idomokra is."* [101]

The question arises whether this ability to see straight lines, vertical, horizontal, or inclined as they may be, is also learnt or whether this is a given, latent capacity of the system. He goes on to describe how the eye can distinguish between 200 colour tints, 500 different degrees of lightness and darkness within those colours and 20 degrees of colour saturation, in other words two million (500 x 200 x 20) colour variations. Given this fact one is inclined to err on the side of caution and back the thesis that our capacity to distinguish shades of colour and our capacity to distinguish shape and form is developed over time, through experience and practice. Having said this, the system which enables this 'learning', the basic matter of whose learning through practice increases its efficiency, can only operate within those capacities laid down by the nature of the system itself. Euclidean geometry, or Renaissance perspective may be learnt and we may tend to view the world 'through its eyes', but the capacity to enable us to see in this way was inherent in the system. It must be a way of seeing compatible with our optic system, or our optic system would have rejected it - indeed been incapable of accepting it.

If we accept this it follows that we may learn to see the world in various ways and if Ádám is correct then this is physically true and not only intellectually. His standpoint would seem, at first sight, to be antithetical to that of Feigl who argued that some of the states through which we live are identical to certain aspects of our neuronal processes. (See 'The Brain'). I should like to argue that even if the way in which the neurons function is learnt, this does not rule out the possibility of Feigl being correct. For it would seem that the functioning of our neurons is to all intents and purposes the same for each of us and, whilst they may have 'learnt' how to function, the processes which they configure may well be causal of some of the types of experience which we live through. To back up this statement we must look at those experiences which we commonly refer to as 'optical illusions'.

The optic system with which we are endowed has, then, as Ádám explained above, its own volition towards order. It sees in a limited way, determined by its nature. It will, and regularly does, see straight lines, where there are no lines, for example the recognition of rectangular bricks in a wall which has been pointed in such a way as to splurge over the edges of the bricks and destroy any vestiges of symmetry. What our eye would seem to be doing is to be sifting information and categorising it into geometric classes of shape - line, rectangle, circle, etc., etc.. But what we actually see is an illusion of rectangularity and not actual. Glance at a shelf of books and we will 'see' or rather perceive a collection of rectangular books. Our eye generalises them as such. If we look again we will be unable to find an actual rectangle, unless we view the spines of the books 'square on', but rather a series of parallelograms, caused by the illusion of perspective. If we look again we will realise that we can not actually see more than one or two actual parallelograms, for most are cut off by other books covering them and the ones that we think we can see are of irregular shape due to the position of the top and the bottom of the book being in different planes in relation to our eyes, and thus not forming true parallelograms. If we look even harder we will realise that there are no actual lines visible, but only the meetings of different light and colour fields, forming as they do an approximation to line. Our eye therefore creates a complexity of illusions, which, as artists, and as viewers of art, we must tear down. The eye works something like a screen of semi-opaque glass which allows one to see the main outlines, but not the details. To see what is really before us we must look much harder - look beyond the way our eye normally sees in everyday use. This is a pre-condition if we really wish to observe the world at a meaningful level. It is essential if we wish to look at art, for even in art the truth is not to be found in the 'intentional' illusions that the sculptor has used, but behind these illusions. Sculpture creates meaning by means of this relationship between those illusions which it contains, and the reality which is behind them.

Tibor Kukorelli explains how our biological system operates in this selective manner;

„Az új inger hatására fellépô általános figyelmi vagy orientációs viselkedés alatt as agykéreg valamennyi területről béta-aktivitás vezethetô el, a hippocampus pedig folyamatos, téta-ritmust mutat. A tájékozódást tehát a retikuláris aktiváló rendszer serkentése váltja ki. A nem signifikáns ingerek ismetlôdése során a kérgi deszinkronizáló hatás fokozatosan csökken, és a hippokampális téta-aktivitás is eltûnik. A habituációs folyamat oka a retikuláris aktiváló rendszer gátlása, amelyet az antagonista struktúrák, vagyis a nyúltvelô és a talamusz szinkronizáló mezôi, az area praeoptica és a hippocampus fázisos aktivációja hoz letre. E területek ingerlése ugyanis gyorsítja, roncsolásuk pedig késlelteti a tájékozódás viselkedési és elektográfiás jeleinek az eltûntését. A signifikáns, motiváló ingerek tartósabb, az ismetlôdés során sem habituálódó hatását valószínûleg a limbikus rendszerból a formatio reticularisra irányuló serkentés biztosítja. E szelektiv *figyelem során a releváns informaciót szállító érzôrendszer fokozottan mûködik, a többire pedig gátlás érvényesül."* [102]

I shall look, in more detail, at the way in which the sensual 'inhibitors' operate, in the next chapter. For now it is worth noting that, interestingly enough, recent scientific research has been concerning itself with establishing those mechanisms which are responsible for us seeing certain visual patterns, whilst artists have long known that we tend to see in stereotypes, and part of their quest, certainly since the Impressionist painters, has been to look beyond these regular perceptual patterns and to literally represent new neural patterns of seeing.

In his book "Eye & Brain", R.L. Gregory researches into the way that the physical mechanism of our optic system affects the way that we see, amongst everything else, art. [103] Gregory explains a great number of optical effects which are commonly perceived by most of us. These effects are closely connected to illusion. These are illusions caused by the nature of the optic system itself and are in no way exclusive to the language of art.

Some artists have used similar ideas to those of Gregory and other writers as the basic premise of their work - Viktor Vasarely and Bridget Riley are prime examples and of course there are many other so-called Op-artists. I find this kind of work generally dissatisfying. One sees the optical illusion and then it is over - there is nothing more, rather like being amazed by a conjuring trick until one discovers how it works. It then has no more magic. Frankly Riley's works, or the large ones at least, make me feel physically sea-sick, whilst Vasarely's bring on my migraine. That is, perhaps, a personal prejudice, but I do find those works which to a large extent deal with optical tricks to be lacking. They expose the tricks that the eye plays when ordering visual information. They lack any reference to other aspects of life and existence. They also lack reference to the fundamental nature of the eye and of seeing, which lie beyond the tricks the eye may, on occasion, play. They are ultimately boring and have little to do with painting as an aesthetic language.

I began this chapter with a quote from Patrick Heron. It is taken from an essay on Cézanne and is one of an occasional series of remarkably astute studies by Heron in the art magazine Modern Painters. Others include Matisse and the late work of Picasso. Most of what Heron says in this quotation has the ring of truth about it. It would seem that the eye certainly needs to impose an order on the mass of stimuli it receives and Heron's notion that we tend to do this through the eyes of paintings is a wonderful idea, and I suspect for him that this is true. I do wonder however if we, collectively, see the world in this way.

I once had a mature student on a summer school I was running in Germany, who was a dentist by profession. He came to me as he wanted to learn to carve granite and he set about the task with great gusto. At the end of the two weeks he was with me he had three stones which were not very elaborately worked, but which had a rather strong basic form. We laughed as I told him that they all looked like teeth, which, indeed, they did. This incident came to mind as I read Heron's words and I could not help wondering if my Swedish dentist did not see the world as teeth, or being made of forms relating to them.

I, too, have enjoyed the experience in France of seeing landscapes 'through the eyes' of Cézanne and Monet, but I do not always - in fact, rarely - view the world in this way. What is true, is that, because of Cézanne's paintings I am certainly able to view the world in another way, if I so wish. The reason for this is that Cézanne was able to break down those veils of the optic system which normally stop us from really looking at something. He was able to go beyond the superficial looking at things and to capture in paint what he found there.

I suspect that how one sees the world is affected by more than painting. Our knowledge of geometry, our experience of moving through forms in the world, our fears and remembrance of past fear, and even philosophy, may all cause us to look at the world in certain ways at certain times. What Heron's statement points to in an admirable way is that we do have a pictorial sense of the world and this may well be deeply influenced by the pictorial artefacts of man, namely painting, and more recently, perhaps, film. I do not think that we can see the world through the eyes of a sculptor in the same way as we may do with a painter, as the sculpture is not pictorial but actual.

Heron's thesis is important as it recognises the contribution of culturally learnt ways of seeing. The theory of Renaissance perspective has become so prevalent in our visual culture that we often mistakenly regard it as naturalism, or truth. Cubism is invariably viewed as being a way of seeing and depicting which deviates from the true, naturalist Renaissance view. But Renaissance perspective is just as much a convention of seeing and depiction, as is Cubism.

This was forcefully brought home to me whilst in Africa. I have had a long love affair with African sculpture. Its geometry is other than that to which we adhere. So is its structure, interval, form, etc., etc. I had always believed this to be based on highly stylised convention, which I suppose it is, but whilst in Africa I saw how much closer to naturalism it really is. The people really do look like their sculpture. Many of the exaggerated forms of head and neck are actually extant in those people who practise skull and bone deformation through binding from childhood. Much African sculpture is every bit as 'naturalistic' as Renaissance art, perhaps more so, and yet its physical conventions are quite other.

So Heron's thesis, undoubtedly, contains a great deal of truth. The way in which we depict things reveals much of how we see the world, but it also leads us to view the world through these conventions of depiction. The sculptor must try to forget these conventions as he works and to begin from a standpoint of visual innocence, each time that he makes a sculpture.

Gregory also recognises the role of learnt experience in our perception;

"The seeing of objects involves many sources of information beyond those meeting the eye when we look at an object. It generally involves knowledge of the object derived from previous experience, and this experience is not limited to vision but may include the other senses; touch, taste, smell, hearing and perhaps also temperature and pain. Objects are far more than patterns of stimulation: objects have pasts and futures; when we know its past or can guess its future, an object transcends experience and becomes an embodiment of knowledge and expectation without which life beyond the simplest is not possible." [104]

So Gregory is, also arguing that we have a familiar way of seeing which is based on our accrued knowledge of previous visual experience and our projected expectations arising from this. Now, when we look at a sculpture we are in a difficult position, for each sculpture is an essentially unique form and our experience of seeing should therefore not help us. This is probably the reason why an inexperienced sculpture viewer will invariably try to make some association between the sculpture and some known thing from his own visual world. The response that, 'it looks like a cat/horse' is much more usual than recognition that the sculpture is a unique form which may, indeed, have some superficial resemblance to a cat or a horse.

The more experienced viewer will tend to perceive the sculpture in some art-historical, stylistic, or formal context. He will perhaps recognise similarities in it with Gothic, or other, sculpture. He too will tend to inhibit his realisation of the sculpture as a unique form, through seeing it through 'Gothic', or other, eyes.

In truth both the inexperienced and the experienced viewer are quick to make associations with their personal known experiences. I am sure that a vestige of our instinct of fear is at play here, for we instinctively fear the unknown. In face of the unknown we are naturally cautious, a caution that is determined by our drive for physical and mental self-preservation. If, each time we see a sculpture, we concentrate on its uniqueness, we are inevitably on unfamiliar territory. Our accrued experience is of no help and we must accept the inherent insecurity of exploring the unknown.

Gregory also introduces the idea of a perceptual hypothesis;

"But it seems clear that perception involves going beyond the immediately given evidence of the senses: this evidence is assessed on many grounds and generally we make the best bet, and see things more or less correctly. But the senses do not give us a picture of the world directly; rather they provide evidence for the checking of hypotheses about what lies before us. Indeed, we may say that the perception of an object is *an hypothesis, suggested and tested by the sensory data."* [105]

Here Gregory hits the mark. For as we look and look at a sculpture we do, indeed, begin to build up a hypothesis of meaning. This happens on both a conscious and subconscious level. We look over time and modify our hypothesis of meaning which we begin to construct based on the lines, shapes and forms of the sculpture, and on the meanings encoded in the sculpture's image. The hypothesis may be purely visual and subconscious, or may involve rational comparison to known information of Popper's World 3. In this latter case the knowledge modifies the way in which we look at and perceive the sculpture. The hypothesis may also be based in a mixture of both the purely visual, and the rational together. The sculptor's job is to encode the sculpture's image in such a way that your hypothesis is synonymous with his.

I should now like to dig a little deeper into the question of what happens when we view a piece of sculpture. Imagine for a moment that you are in the theatre watching a performance of, say, Hamlet. Now we know that the actors are real people but that they are pretending to be somebody else. They interrelate with the other actors and with the set of the stage. The props invite us to believe that Hamlet is standing in a castle in Denmark, although we know that the actor is standing on a stage in front of us. Our enjoyment of the play, and our understanding of it, are dependant on our ability to suspend our self consciousness of where we are, and of our act of looking, and to enter into the fantasy world of the play. The success of the play depends on its ability to convince, or in other words, its ability to captivate us and hold our imagination in its world, rather than in the real world of the room in which we are sitting.

Now try and imagine that you are looking at a piece of sculpture, say, Michelangelo's David. Your enjoyment of the work will depend on its ability to convince. It, like the production of Hamlet, may suspend your awareness of yourself looking at the work, as you enter into its fantasy world. It invites you, just as the play did, to suspend your existence in the real world and to enter into its secrets and its success is, in part, dependant on its ability to do this.

The sculptor has used all the tricks of the trade to try and convince you and to try and control what you are seeing and, more importantly, perceiving. You will almost certainly - unless you are intentionally analysing the syntax of the work - be unaware of the illusions involved. Generally there are two kinds of illusion involved; the purely optical, and the conceptual. The first kind of illusions are those which I mentioned in the chapter on the physical aspects of sculpture's language. The eye has a volition to order and will read flatness, or smoothness, where there is none. The second kind is more complicated. We perceptually accept that David's is holding a sling in one hand which he will later use to fire the shot, which is cupped in his other hand, at Goliath. In actual fact this is a physical impossibility, for the right hand is a continuous piece of stone with the leg against which it rests, and the 'cloth' sling a continuous piece of stone with both David's left hand and his shoulder and back. So we are suspending our belief in what our eye is visually telling us. We are not seeing what is actually there physically, but responding to the image of the sculpture.

What has happened here then is that the visual information coming from the sculpture leads us to make a conceptual hypothesis based on our experience of our normal reading of a real figure in the real world. It is a complex hypothesis involving our actual visual experience, our knowledge of the world accrued through our own existence in it, and Michelangelo's manipulation of what, and how, we are viewing his creation. For Michelangelo, or rather his sculpture, is, to a great extent, in control here. You may not have noticed how small David's head is in relation to his body, when compared to a real figure in the real world. By diminishing the size of the head Michelangelo stresses the illusion of an energetic physical strength within the body. Thus, and in many other ways, he is tricking you and controlling your mental response to the visual events before you. In simple terms you are being conned into believing in a lie. You are seeing the sculpture's image and not the visual facts that are before you. So as I said above, Michelangelo's task, as with any sculptor, is to try and find an analogy in his materials whereby you will make, and be convinced by, the same hypothesis which he has, intentionally, encoded.

As Descartes wrote in his 'Dioptrics' of 1637:

" I need not, in conclusion, say anything special about the way we see the size and shape of objects; it is completely determined by the way we see the distance and position of their parts. Thus, their size is judged according to our knowledge or opinion as to their distance, in conjunction with the size of the images that they impress on the back of the eye. It is not the absolute size of the images that counts. Clearly they are a hundred times bigger (in area) when the objects are very close to us than when they are ten times farther away; but they do not make us see the objects a hundred times bigger; on the contrary, they seem almost the same size, at any rate so long as we are not deceived by (too great) a distance."[106]

Before we leave the eye, I must mention one other notion of Gregory's which is very important to my subject. He shows that Zulu people live in what is essentially a 'round-culture'. [107] **Their mud huts are round, they do not plough their fields in straight lines, and they have few possessions with corners and straight edges. As a result, tests have shown, they have little or no response to those geometric patterns which confuse our European brains and cause optical illusions. In other words it would seem that a great deal of our perception, as opposed to our actual mechanically determined visual reaction, is culturally determined. In other words, whilst the incoming visual information is probably the same for myself and a Zulu, not only the conceptual, but, possibly, also the perceptual hypothesis which we construct as a result of it, would seem to be quite different. So I have to accept that my Zulu friend might have difficulty in seeing Michelangelo's David as I do.**

This simple fact would almost seem to destroy the whole theory that I am proposing, but I believe that it does not. We will recall that Eccles' monkeys had the necessary mechanisms to see geometric figures. If we human's have the same, or similar, mechanisms, then my Zulu colleague also has this latent capacity, even though he may not, normally, use it. Now to our European eye the forms of much African sculpture seem rather alien and yet we can, undoubtedly, take great pleasure in looking at them and they may even have a profound affect upon us. We may therefore conclude that our Zulu may be able to enjoy Michelangelo, just as I may enjoy his artefacts on a level which is pre-conceptual and perhaps also pre-perceptual and which may be profound. I hope that this apparent paradox will become clear, in a short while.

Chapter 7. The empathetic capacity

"perception is a matter of making the best bet on the available evidence." [108]

I should now like to examine, briefly, how we are able to train our senses. As an example let us take a symphony - say Beethoven's Ninth Symphony. Given that some will say that this is just an awful noise, we must accept that, in western culture at least, this is a popular piece of music. Now I should like you to imagine that you are listening to a recording of it. You may be able to distinguish which instruments are being played at any given moment, or, if you have more extensive musical training, to distinguish on which string the violinist is playing, perhaps even to visualise which notes the violinist is playing at any given moment, or indeed be able to "see" the whole score. Now all these abilities are based on the level of our experience of music and probably on some formal training. Those whose job, or perhaps merely their passion, is involved with music, will obviously have a much wider and, perhaps, more refined appreciation of what is being played than the casual listener who 'knows nothing about music, but knows what he likes'. On the other hand the casual listener may get more pleasure from this music and, indeed, may, conceivably, outstrip the professional musician in the refinement of his appreciation.

This capacity for refining the uses of our senses is common to all the senses. A professional wine-taster will appreciate nuances in the bouquet of a wine which will escape the nose of the sometime 'buy a bottle of cheap Spanish Sauternes for the party' drinker. Naturally, so it is with our appreciation of sculpture and those involved with making, or professionally looking at sculpture, either as critics, dealers or historians, may well have a more refined visual sense than the layman, although this is by no means sure. Just as a quality controller in a factory producing glassware will be able to make refined judgements as to the quality of each of the thousands of bottles passing before his eyes on a conveyor belt each day, judgements which an untrained eye would not see, so the professional sculptor can judge sculpture in a way probably not possible to the untrained eye. The important point here is that this is not guaranteed. The untrained eye can potentially make judgements and its brain, evaluations, at the highest level. Before I look at this capacity I should like to look at the biological theory of how we learn.

Ádám suggests that the brain functions learn to recognise functional modes that they have been previously required to use and are able to use these again, as required;

„A magasabb idegi funkciók közül az emberi pszichikum és az állati alkalmazkodás folyamatában legjelentősebb, és ezért legrészletesebben tanulmányozott folyamatok olyan agyi jelenségekkel kapcsolatosak, melyek következtében többé-kevésbé maradandó *módosulások jönnek létre a magasabb központokban. Az állandóan változó külvilág ingerei nyomán létrejövő individuális és maradandó agyi funkciómodifikációk lehetővé teszik a szervezet számára, hogy az* emléknyomok *formájában múltbeli információkat tároljon, és hogy e rögzített tapasztalatokat szükség esetén* visszaidézze, *és felhasználja. Az egyéni élet során megnyilvánuló ezen plasztikus jelenségeket* tanulási folyamatként *tartjuk számon."* [109]

Ádám says that there is not, at present, a definitive classification with which to categorise the physiological aspects of learning. He does, however, offer some explanation of this capacity. Firstly he distinguishes associative learning and within this category, classical, and operative, learning. He begins with the genetically given animal reflexes, which he claims are permanent and passed on from generation to generation.

An example of such a reflex is the bio-chemical reaction which occurs when a stimulus of pain is felt by the skin. He argues that such reflexes, alone, are not sufficient for our survival in a changing environment and, for this reason, we have the additional capacity to learn certain reflex patterns. He gives the example of carnivorous animals, whose taste-buds, at birth, are able to chemically respond to the taste of meat. The carnivore can, later, learn to associate the taste of meat with the sight and smell of meat. But this, latter, ability is a learnt one, and not genetically given. Basically the animal has learnt to associate the taste of meat with certain visual or smell patterns and these learnt stimuli will cause a salival reflex.

Such learning is essential to the survival of the animal and may, therefore, be described as obligatory learning. The capacity in the animal to acquire this obligatory learning is, Ádám states, genetically conditioned, although, as I have said, the actual acquirement of it, is not. The animal also has the capacity for facultative learning and an example of this would be the capacity of a dog to associate the sound of his owner banging on a plate, with food. In this case the dog has two incoming stimuli - that of the sound and that of salivation arousal. Through repetition the dog associates the two things. Physiologically, the thalamus and cortex have learnt the necessary associative pattern and will repeat this pattern again and again, each time that the two stimuli are received together. We, undoubtedly, learn to see in this way and our reaction to the language of sculpture is greatly determined by such learnt associative physiological switchings.

Ádám goes on to describe our blocking mechanisms, of which there are many types. If we return to the example of the dog's owner banging on a plate at feeding time, we can understand how these work. If the sound of the banging should be too great it will overstep the upper limit of the analysing neurons of the dog and a defensive blocking will occur. The dog, in this case, will not begin to salivate, as the learnt associative switching process has been interrupted in order to defend the dog's aural system. Another example would be the reaction of the eye to a very bright light, which, automatically, causes a reflex of turning away from the source, or shutting our eyes, which is why family photographs taken with a flash often show certain members with their eyes closed. This capacity is also genetically given.

There is another kind of inhibitor which allows differentiation and this is central to the analytical capacity of the brain. If the dog hears not only the banging plate but also a bell he can learn to distinguish between the two signals. At first he will salivate on hearing either sound, but if, later, the sound of the plate, only, results in food and the bell not, he will learn to differentiate between the two and the bell will not lead to salivation.

The second kind of associative learning may be described as instrumental or operative. The classic example is that of an animal which learns to press a button in order to obtain food. Here the animal receives no actual stimulus from the environment; rather the animal is conditioned. He learns that he may obtain food through a physical act and that this will happen however many times he presses the button.

Most researchers regard these two types of associative learning as the basis for human learning and memory. Ádám suggests that a more complex learning structure may be configured for the human, in which the basis is associative, and the peak cognitive, learning, that is to say, the ability to learn in an anticipatory way, based on already acquired knowledge.

For my purposes I should like to make some distinctions at this point. We have seen how our biological systems learn to recognise certain operative patterns and to react to these, repeatedly, in the same way. We also have a capacity to inhibit these 'standard' reactions. These inhibitors are at the basic level self-protecting to the organism, but at a

higher level represent the notion of differentiation, and implied within this, choice. I have described how the eye tends to see through a set of learnt conventions, but we can inhibit the activation of our habitual ways of seeing. The importance of this will, I hope, become apparent when we look at the difference between the way the viewer views sculpture, and the sculptor makes sculpture.

I should like, now, to introduce two more aspects of our biological make up - that of motivation, or drive, and that of emotion. Kukorelli proposes a pyramidal structure, based on biological urges, for our psychological motivation. This structure has six levels. At the base are those essentials necessary for a safe existence, without danger. The next level is that of the need for solidarity and love. Thirdly is a desire for recognition and esteem. Fourthly, the desire to gain knowledge and consciousness. Next comes the necessity of aesthetics - order, symmetry and the longing for beauty. Finally comes the need for self realisation. [110]

Kukorelli makes a distinction between drive and instinct. When an animal attacks and kills, or when it copulates, its actions are determined by instinct. These instincts are genetically inherited and biologically determined. There is no consciousness or intellectual involvement, as there is in the case of motivation;

„Az ösztön és a drive azonban mégsem egyetlen fogalom két szinonim elnevezése. Míg az ösztön, eredeti elképzelés szerint az agyba genetikusan rögzített rigid determinálò faktor, addig a hajtóerò az életmûködések során keletkezô motiváló hatás. Ezen elvi különbség magyarázza a motivációs rendszer elônyet az ösztönrendszerrel szemben. A drive-teória ugyanis lehetôvé teszi a) a hajtóerôk kisérletes vizgálatát, alaptipusainak elkülönítését és centrális apparátusának feltárását, valamint b) a motivációs folyamatok plaszticitásának, vagyis másodlagos hajtóerôk genezisének magyarázatát." [111]

We should remember here that Freud' theory of behaviour was based, as Kukorelli points out, on two basic instincts, that of life, in the sense of sexuality, and of death, which is, according to Freud, the basis of our aggression. Personally I prefer the motivation theory put forward above. Before we look at this more closely I should like to look in a little more detail at the motivation theory.

Some motivating factors may be considered to be homeostatic and these include the need for water and salt, the need for chemical balance in the body, the need for an energy store, the need for a constant body temperature, the effective use of the nervous system and the integrity of the body tissue. All of these factors are to do with the healthy maintenance of the body and are causal of various actions, namely, drinking, the eating of salt, etc., etc.. There is another group of motivating factors in human behaviour which may be regarded as extra-homeostatic. Some of these are fear, sexual desire, mothering, anger, etc. The homeostatic factors are those responsible for keeping the body in an optimal state, whilst the latter factors are sources of motivation which may be considered as environmentally related.

These, and many more functions, are governed by the hypothalamus, seated around the lower brain-chamber, beneath the thalamus. Ádám states that there is a difficulty in exactly describing the complexity of functions governed by the hypothalamus as theories change from year to year as the result of new research. Basically it is concerned with the self preservation of the animal, with motivation and emotional reaction. [112]

Kukorelli states that each of our actions is accompanied by an appropriate subjective experience. The resulting feelings are the basis of our emotional response. It

follows from this that the emotions are closely related to motivation. In the case of aggression, the emotion may actually be the motivation. Feeding and sex are not merely drive-based behavioural acts, but also can give immense pleasure. It is actually quite difficult to distinguish the two things and the differentiation normally occurs on the basis of the connection between stimulus and response. The main difference is that motivation, or drive, leads to a series of actions which have aim, whilst emotion is a subjective response to, not only the original experience, but also to the physical bodily reactions caused by it.

As well as the actual source of emotion affecting us, we may also inflect our memory of previous emotional response. Thus the whole question of emotional response is extremely complicated and has been categorised in numerous ways. Kukorelli uses Woodworth's classification into six groups of emotional response - 1) love, joy, and optimism, 2) surprise, 3) fear and suffering, 4) anger, 5) loathing and 6) detestation. The physiological basis of these different emotions is unknown, although a distinction can be justified between that which is pleasant and unpleasant. He also points out that emotions tend to affect the whole body. Emotions can be read in facial expression, normally increase the rate of the heart beat, cause an increase in blood pressure, cause changes in the blood flow, cause the flow of adrenaline, etc., etc. What is particularly interesting is that it would seem that these physiological reactions to emotion are common to all emotions and not specific;

„Ennek ellenére az izomtónus, a keringés, a légzés stb. műszeres (poligráfiás) megfigyelése mégsem eredményezte a szomatikus és vegetatív változások olyan mintázatainak a felismerését, amelyek kifejezetten specifikusak lennének az egyik, vagy a másik emocionális állapotra. E látszólagos ellentmondás valószínűleg a következőkkel magyarázható: a) Az egyes érzelmek nem különálló kategoriák, hanem integrációs folyamatok eredményei. b) Az emócionális kifejezések, reakciók tanult komponenseket is tartalmaznak. c) Más egyedek emócióinak felismerése ugyancsak jelentős mértekben szerzett tulajdonság. Mindezek az emocionális tapasztalatok és megnyilvánulásaik plaszticitását, egyenként és esetenként mutatkozó eltéréseit okozhatják. A poligráfiás vizgálatok eredményei rámutattuk arra, hogy a legtöbb szerv működésének módosulása szorosabb összefüggést mutat az érzelmek intenzitásával, mint minőségével." [113]

From Aristotle onwards there have been many theories as to where the physiological basis of our emotional responses lies. Cannon, according to Kukorelli, placed the origins of emotion in the thalamus. Ádám mentions Cannon in a different context, when discussing the sympathetic nervous system. According to Cannon this sympathetic system deals with the functions of alarm to danger. According to the external stimulus the sympathetic system tones the body to maximum preparedness. The resulting bodily transformations are the same as those which Kukorelli describes as resulting from emotion, which rather begs the question whether, or not, the two things may be connected, despite the functions of the sympathetic nervous system being basically centred in the spinal column. This brings to mind those wonderful Leonardo anatomical drawings in the Queen's collection, which I studied at length many years ago. At that time the spinal column was thought to be the seat of the soul and, consequently, the basis of human behaviour. Some of Leonardo's drawings were, thus, anatomically incorrect in the lumber region. At the time I puzzled that someone who was so observant could be blinded by ideology. I now suspect that this might have been intentional on his part. Could he not have been trying to explain, visually, something other.

And now you will, perhaps, allow me an emotional reaction. 'The needs of aesthetics'; 'the longing for beauty'. These phrases of Kukorelli, in themselves, sound beautiful. That this may be the basis of one of our drives is a wonderful idea, and one with which I can only sympathise. For, indeed, is not this the basis of the life which the artist chooses for himself.

With all this in mind, I should now like to return to the problem I posed earlier in this chapter. How may somebody have a deep response Beethoven's Ninth Symphony, or indeed any piece of music, whilst being ignorant of the compositional complexities of the music itself. In other words, if the listener has not learnt to appreciate music, how is he, then, able to do so.

I suggest that the answer lies in may be thought of as a sixth sense, although I suspect it is rather a function of our combined sensual system and the experience collected by it over time. I have tried to show that the capacity of our senses is determined by a complex system, whose basic building bricks are determined by DNA, (as far as our present understanding of human biology is concerned). These bricks form a complex structure which determines how our senses respond to their environment. I have argued that these senses may be trained.

The origins of this 'sixth sense' are undoubtedly in the right-side of the brain, which we will recall, are responsible for our pictorial and pattern sense, the noting of visual similarities, synthesis over time, holistic images, the geometric and spatial and the musical. (See The brain, above). This I should like to call our 'empathetic' faculty and it is this which I propose as the basis for our appreciation of the language of sculpture.

What do I mean by 'empathetic capacity'? There is, in all of us, a capacity to respond to heard music, to seen sculpture, to tasted wine, etc. in a way which we often describe as feeling - "I don't understand it, I can just feel it". It is often connected with a notion of instinct - "I feel it to be right". Now this capacity is one which does not involve that process of the brain which we refer to as logic, nor indeed our ability to formulate linguistic ideas. It is a capacity which is, I propose, determined by the nature of our sensual systems themselves. It is a capacity that may be thought of as 'instinctive', but there are good reasons to describe it, preferably, as 'empathetic'.

I have shown that there is a distinction to be made between instinct and drive. One of our drives would appear to be the 'need for beauty'. This capacity arises out of this drive, but is, in itself, a response. It is a response which is totally visual, (or, indeed, aural), without the mediation of language and the rational. It may well be coupled with the memory of previous, similar, visual experiences. For this reason it should be thought of as empathetic - we are able to empathise with the visual form of the sculpture, or with the aural form of Beethoven's sympathy and this empathy causes an emotional response in the way I have described above..

Earlier I discussed some of the basic elements of sculpture's language - shape, line, etc. One has to have no understanding or knowledge of these in order to appreciate a work of sculpture, just as one need know nothing about musical scales or orchestral arrangement to appreciate Beethoven's Ninth Symphony. One's sense system empathises with them. This empathetic capacity might be mistaken with our, 'aesthetic sense', or our 'aesthetic capacity', but there is a distinction of terms. The basis of aesthetics is the recognition of certain patterns which we refer to as beautiful. Standing beside a large block of uncut stone we may feel a sense of its power. This sense is determined by the stone's size being larger than ourselves; our sense of scale. This is not an experience of an aesthetic order, but one based in our empathetic capacity, which works before any kind of value judgements, including those of aesthetics, are made.

The empathetic capacity is the direct response to line shape, form and gestalt - the direct function of the right sphere of the brain and those neurons of the eye which 'see' such things. It is a first and pure response. One's empathetic capacity allows for those rare, but real, moments when one is simply overwhelmed by a piece of music, or by a sculpture. There is no logical process involved in this case and no judgement. It is an example of what Reuben Wheeler refers to as a moment of accord;

"When we, as adults, experience this sensation of accord, we know it as something which transcends normal time and reality, fear and desire; it is a being at one with the creative universe, a surrender and dissolution of the barriers of personality so that the part, the individual, becomes merged with the whole - the individuum." [114]

This feeling of accord, as described by Wheeler, is of course not limited to our reaction to a work of art. It may come whilst walking through the forest. On occasion, it is an immediate reaction to a work of art, based in the right side of the brain, without the temperance of the logical workings of the brain's left side.

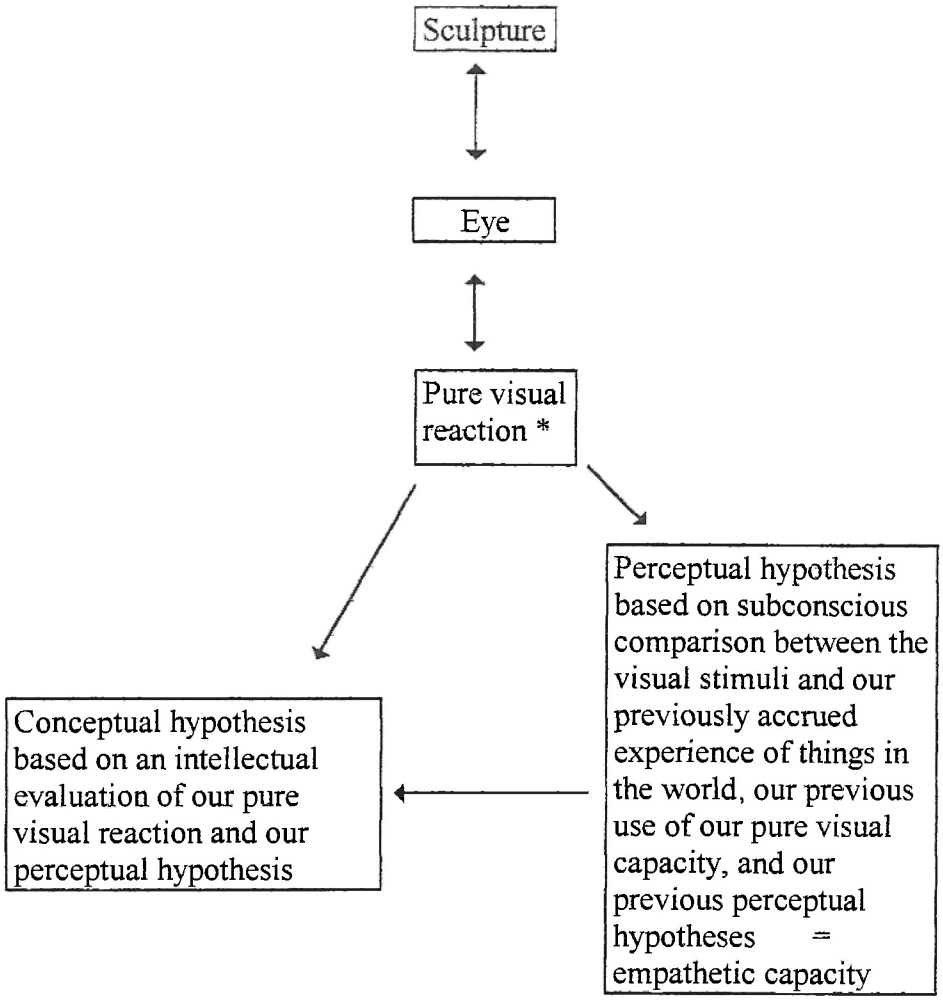
It is this same empathetic capacity which allows us to empathise with the forms, lines, shapes, scale and structure of a sculpture. We have no need to make a scientific analysis of these factors when looking at and reacting to a piece of sculpture. Our experience of seeing objects, touching them and moving amongst them in space, with our given sense mechanisms, allows us to invoke our empathetic capacity as a matter of natural course, as a pre-requisite of any further considerations. These moments of accord, this feeling of being a part of something greater than ourselves are caused by the holistic image of the sculpture having accordance with our empathetic capacity. I propose that what we call beauty is actually our empathetic capacity experiencing an equation between the image of the sculpture with those very configurational patterns by which our biological systems work. In other words, when we sense something as being beautiful we are making an emotional response to our recognition of the order of those same configurational patterns with which we, physiologically, experience the world.

It is our empathetic capacity which allows us to respond to an Egyptian sculpture, about whose origins and specific cultural meanings, we know nothing. It is the empathetic capacity which allows the layman to appreciate sculpture.

Our senses are constantly inundated with information, even, it would seem, during sleep. This information is filtered at a fast rate. I have already said that the eye constructs a kind of veil through which we see the world. Bombarded, as it is, with so much information, our optic system requires some kind of filtering system, briefly described by Ádám above. (See 'The Optic System') It is a means of subliminally disregarding most of this information. If we see something that is dangerous then this immediately stops the random flow of incoming information and focuses our attention on the approaching tiger. One may describe this as the take-over of consciousness - our eyes are constantly looking subconsciously, and at those times when we 'pick something out' of this flow of information and give it our special attention, then our vision may be said to be conscious. But, I suspect, this is too simplistic. When we see a tiger coming towards us, do we actually have a conscious reaction? I think not. What appears to happen is that our brain recognises the tiger from the mass of optic information and thus for a moment we may be involved in some kind of conscious recognition, but our instinct for fear is activated and the adrenaline starts to pump, enabled by the sympathetic nervous system. As we know this chemical reaction that is fear often disables our normal physical and intelligent reaction to the situation.

Now, I have used here the example of fear to show that the selection of something from the flow of optic information, is not necessarily conscious. I would like now to argue that our visual response to a sculpture and indeed our environment is not primarily conscious either. We see, unaware of our seeing, until 'something catches our eye', or 'I happened to overhear...'. At this moment we begin to look, or hear, as the case may be, beyond the veil of the eye, or ear (for we filter sound too, in the same way, as, indeed, we do with all of our senses). At this moment our empathetic capacity is activated. Some shape, or form, or colour catches our eye; a certain string of words, or a name, our ear. This will often trigger some further rational reaction, but may also remain in this purely visual realm. What I believe differs between a sculpture and a chair is that the sculpture purposely invites the invocation of our empathetic faculty. The sculpture demands to be seen in the visual world of the empathetic. It may try to by-pass the logical workings of the brain and to empathetically invoke Wheeler's feeling of 'accord'. This works on a level quite outside of logic and quite outside of spoken language. These moments of 'accord' are the ultimate in art, moments to which all true art aspires. To put it another way our Cycladic figurine invokes a response in the right side of the brain, whilst Bernini is definitely of the left. (See chapter 1 - Illusion)

So what I am arguing for, in short, is a reaction to sculpture, seated in the right side of the brain, that is purely visual, untempered by language and the rational, and which may be profound.



A diagram showing how our eye and brain may form meaning from the visual stimuli received when viewing a sculpture.

* Pure visual reaction should be understood as the actual chemical reactions which occur, and the electrical impulses which are passed, when seeing.

Chapter 1 The sculptor's practice

"Often, because I am trying to make a drawing, I am unable to draw". (My notebook 9.8.1995).

"The same sense of unity is immanent in the mind, and is a source of vitality and power when it rises to the consciousness. This feeling of being in accord with life, with nature and with the world, comes rarely to adults, but for children it is a common experience. This is why we are able to regard childhood with nostalgia, as for a lost paradise. Children feel the world as one with themselves, and they move among the phenomena of experience accepting them as having a vital relationship to themselves in the way that their mother has. The whole world can be condensed in and expressed for a child through a doll, a stone or even part of a garden or some secret place in a room."[115]

When Henry Moore was asked for his opinion about the book written on him by the Jungian psychologist, Erich Neumann, he claimed not to have read it, fearing that his knowing too much about the psychological processes at work in his practice might inhibit him. This simple fact tells much about the nature of the process at work in the sculptor's practice and I should now like to concentrate on this.

To begin with I must return to the distinction between the language sculptors use and the language used in the appreciation and analysis of art. Moore's stance is revealing. I have already stated that much of the activity of the sculptor is not controlled by logical thinking. What I previously termed as the sculptor's "instinct" is truly his empathetic capacity at work. The sculptor has become so familiar with its use that it is constantly invoked without thinking. It is the "flow" of work. When the sculptor starts to think logically and analytically, it is because his empathetic capacity has been interrupted by something. He is no longer involved with the empathetic doing, but has become self-conscious of what he is doing. (There is, as I shall attempt to show through the work of Tony Cragg, a type of sculptor who works in a much more intellectual way, but even here I suspect that their work is governed by more intuition than they or any of us care to realise).

I should like now to look at the nature of this mysterious process which occurs when the sculptor makes a sculpture. The starting point will vary from sculptor to sculptor. Some like to work out every detail of the finished work beforehand, in detailed drawings or through a scale model. Others may begin with the material directly, bringing to it no preconceived plan, but rather a set of prejudices built up over long experience. Some, as in the case of certain minimal artists, may work out the concept and order the work to be made over the telephone.

The amount of pre-planning is a matter of choice. The making of the sculpture must be understood to begin with the drawing, model-making, or with just the contemplation of its possible form. At some point in the procedure physical action comes into play.

At this point the material comes into play. As I have already stated, different materials have their own logical working processes and the chosen material will therefore largely determine the nature of this work and, subsequently, the starting point. Those sculptors working with extant material such as stone or steel, will probably have a large stock to choose from, or indeed their starting point may be a particular block of

stone itself, or a group of steel parts lying around the studio. Those working with plaster have no such starting point - for them it is an idea and a bag of powder.

For those who like to totally pre-plan, the actual physical process of making the sculpture is just the same as any kind of fabrication. If we take the case of a stone sculpture that is a copy, perhaps scaled-up, of a ready prototype, the work will be the same as that of any stone mason and indeed some sculptors often give out such work to assistants. The other way - that of directly working with the materials - is more complicated. Whilst the mechanical procedures will be the same as those of the stone mason a serious of complex aesthetic decisions must be made as the work progresses. The working situation will be open, allowing for accidental discoveries and change. Often ideas will come and changes occur that were unthought of in the original planning. The final form is not known until it is realised.

I recall, as a student in the 70's how the teaching staff used to talk to us of parts of the sculpture being 'right' and how some areas 'worked' whilst others did not. One never quite new what these words meant, but over the years one's feeling of 'rightness' and things 'working' developed, and 'rightness' became a consensus opinion. There was never much attempt to define 'rightness' - one just knew that things were 'right'. I mention this as it is, perhaps, symptomatic of the problem of describing the non-verbal visual world, in words.

At some point in the making of the sculpture the work will stop and the sculpture generally declared as finished, although the possibility must not be disregarded of re-working at a later stage, often after many years. It will probably be a moment when the sculpture is felt to be 'right', or often, as in my case, the sculptor will find that the minute changes have reached saturation point and that to further work on the piece is unnecessary 'decoration', or that he has reached the stage where he is just playing with it - that to proceed further will add nothing of significance to the sculpture. Generally speaking the work is finished when every minute part of it is felt by the sculptor to be intentional.

This then, or something close to it is what happens in the sculptor's studio. It is a description of a physical process. What is more difficult to write about are the mental and aesthetic processes involved alongside this physical practice. It is this part which Henry Moore did not wish to read about in Neumann, this part in which David Smith finds words to have no place.(See below). Moore was simply afraid of knowing too much about the process in which he was involved everyday.

"If you ask why I make sculpture, I must answer that it is my way of life, my balance, and my justification for being." [116]

I have always believed that the artist, or sculptor, works in order to make some sense of the confusing world which surrounds him. He may not have aspirations to make statements about this in his work, but, at the lowest level, the simple routine of the working process is a kind of ordering of the sculptor's personal life and immediate surroundings. His situation in the studio and his way of thinking is much closer to that of the child than we may care to realise. In his Notes of a Painter of 1908 Henri Matisse said that, "I am unable to distinguish between that which I am creating and the act of creating it."[117] This is so near to the child at play, who is so immersed in play with a doll's house that, as Wheeler says, "normal time" is transcended. [118] I would argue that, much of what the sculptor does is synonymous with the play of a child, but with one difference. That innocence with which the child views the world, is no longer available to us. The child always sees the world as something that revolves around him, he being

the centre. We adults know that, however much we may wish it to be so, the world is simply not like that. So the sculptor must re-create this state of innocence artificially, knowing it to be a lie, and does this either through his empathetic capacity, or through some pseudo-scientific theory.

The empathetic capacity is, in itself, a way of seeing the world. Most, probably all, artists keep notebooks wherein they jot down or draw any piece of information that may seem to have relevance to their studio practice. Usually there is no logical reason for accepting this, or that, piece of information. It may even be something useless which, it is felt, may become useful one day. Such decisions are worlds away from the logic of the scientist. Indeed he may, in such a notebook, merely begin to doodle aimlessly, waiting for that moment when his empathetic capacity reveals something of interest - a particular configuration of lines, or imagined forms that fit into what Henry Moore calls his 'form-world', a process which Paul Klee refers to as 'taking a line for a walk'.

This maybe gives the impression of the sculptor as a comatosed bumpkin, who goes round 'having experiences, man' (as we said in the 60's and 70's), which is of course an absurd notion, given the hard physical nature of most types of sculpture. (I exclude here so-called sculptures of 'sculptors' throwing twigs into rivers - shame on you, Andy Goldsworthy, for repeating this early 1970's act!) [119]

I am convinced that, for a large part of the time, the sculptor working in his studio has no notion of what he is doing. Conscious thinking plays a minor role in the process. A peculiar relationship exists between mind, body and material. The three are interwoven into an inextricable web. Neither words, or spoken language have a place here. Sculptors may talk 'about' their work, but they always talk around it and usually with convenient, succinct summaries which are thought up after the act.

"Everything in this article concerns my inner experiences as an artist. The words were born afterwards. I do not attribute any value to what is uttered in words. Words are instruments of thought that assist me in my work."[120]

To take an example, I have read and seen on T.V. a number of interviews with Henry Moore. The same few anecdotes recur again and again - the influence of childhood memories of massaging his mother's back, of seeing carvings in Yorkshire churches and the shaped rocks of the Yorkshire moors and the re-use on many occasions of the same few simple terms - for example his "form-world". I do not mention this to belittle Moore in any way. Indeed, I find what little he does have to say to be uncannily pertinent. My point is that Moore, like all sculptors, has no need of words. He may say much more through the language of sculpture itself. I would go further. Generally speaking words, however well used, may rarely contribute to our understanding of sculpture. They may set a sculpture into some historical context, talk about its physical condition, compare it to other works, but there comes a point when they can go no further. They are obsolete in any attempt to understand the real meaning of a sculpture. Furthermore, any attempt to describe a sculpture in words makes it a captive of those words. The word description stops us from looking further; prevents us from seeing.

David Smith, who wrote so well about the practice of the sculptor, is rather astute on the subject;

"To the creative artists it is doubtful if aesthetics have any value except as literature. It is doubtful if they have any value to his historic understanding of art, because his aesthetics are a totality of visual memories of art images and not words. Even when aesthetics exist in time, relating to his work, they are made after the work is completed, by

minds and language other than the artist's. Historically, he is not subject to what a pedant thinks another artist thought, when he has direct communication with artist of all ages, in their own language....

.....The artist does not deny aesthetics, but his aesthetics are memory retentions visually selected, carry no moral, and do not operate within word limits. Verbally stated aesthetic summations are of no benefit in the making of a work of art." [121]

In the making of a sculpture there is a vast amount of work which is routine and mundane. This is the physical work and during it the sculptor's mental state probably resembles that of any worker involved in a production job. His thoughts may wonder freely and will probably have little to do with the work in hand. The real business goes on when the sculptor stops, stands back, and starts to evaluate what he is doing. In my experience this may take as much, or more time than the actual physical work. Much of this 'thinking' is actually 'looking' - that is to say that it a kind of visual thinking without language. It involves the visual projection of potential changes to the forms, lines, shapes etc. etc. and subsequently, to the sculpture as a holistic image.

So, if the sculptor in his practice is engaged in a kind of thinking which is not linguistic in the word-sense, but in a visual sense, in what kind of thinking is he specifically involved? The answer may well lie in those capacities of the brain which I briefly outlined at the beginning of the chapter on 'The Brain'. The mental state that the sculptor employs a great deal in the course of his work is similar to those mental states which would appear to be common to Buddhist thought, transcendental meditation or Silva Mind Control.

It was in 1929 that Berger first analysed the electrical impulses of the brain. He split them into four categories, Alpha, Beta, Delta and Theta, each varying according to the magnitude of the frequency (cycles/second) and the amplitude (μ Volt). The Alpha waves are in the range 8-13/sec. and the resistance is 50μV. The Beta waves are in the range 13-30/sec. with a resistance of 5-50μV. The Delta waves are in the range below 4/s and with an amplitude usually in excess of 50μV. The Theta waves have a frequency of between 4 and 7/s with an amplitude that is smaller than that of the Delta, and larger than the Alpha waves. [122] These different wave lengths reflect the state of the brain during different processes. When we are alert and paying attention to outside stimuli we produce Beta, and when quiet and relaxed, with eyes closed we produce Alpha waves. In adults Delta waves are usually produced when sleeping and Theta waves in those moments between sleeping and waking. Scientific study of states of meditation - as used in Transcendental Meditation and Silva Mind Control - would seem to suggest that the human mind, when in the meditative state, produces wave lengths in the Alpha range and sometimes the Theta. Rational activity, on the other hand, produces wavelengths in the Beta range. [123] Silva points out that generally we produce Beta waves in our everyday activity at the expense of the other states;

„Bétában, vagyis teljesen ébren lenni nem okoz semmi különleges érzést. Érezheted magad magabiztosnak vagy felhetsz, lehetsz elfoglalt vagy tétlen, elmélyülhetsz valamiben, vagy éppen unatkozhatsz - Bétában a lehetőségek száma gyakorlatilag végtelen. Mélyebb szinteken a legtöbb ember számára korlátozotabbak a lehetőségek. Az élet megtanította őket arra, hogy Bétában funkcionáljanak, ne pedig Alfában vagy Thétában." [124]

In this Ádám would seem to agree;

„Minel intenzívebb az agyi aktivitás, tehát minél éberebb a vizgált egyén, annál kisebb feszultségú és nagyobb frekvenciájú hullámok jelennek meg." [125]

Ádám says that when one is day dreaming in the Alpha state, the moment that one opens ones eyes and they receive the external light stimulus, one, in that moment, changes to the Beta state. What Silva argues is that one can learn to be in the Alpha state, whilst carrying out one's everyday activities.

The basis of Silva's book and his methods are various meditation techniques which concentrate the mind and induce the production of Alpha waves. These states closely correspond with the meditation of the Buddhists and even Christian prayer in its more developed forms. I suspect that much of the sculptor's 'thinking' activity during work is also in the Alpha range. During those moments of deep visual concentration I have, in momentary flashes of self-consciousness, been aware of the similarity of my mental state and those of people reporting on their experiences of meditation. It is also, I think, quite significant that the basis of the Silva's technique is essentially based in the visual, using techniques of visual associations to improve memory and analysis of problems in terms of visual imagery.

This is, of course, just a guess and I suspect that wiring a sculptor up with electrodes to measure his brain waves whilst he is working, would be such an interference to his normal practice that the results of such a test would be extremely unreliable. One thing is certain. Logical thinking has little role to play in this stage of making the sculpture. It may be used during the processes of the work - for example on the best way to cut or weld some pieces of steel, or the best way to cut a form in stone, but otherwise it has little place in the studio. As Tony Cragg said when asked how he started to make a sculpture;

"I have two or three usual ways of starting. I can literally be in my bed or I can be sitting somewhere, or be in the middle of a meal and have a sort of vision." [126]

Given the way in which sculptors would appear to 'think', art history tends to make the mistake of attributing all kinds of intentions on the part of the sculptor which he clearly did not have. Art critics and historians must be ever aware of differentiating between what a particular sculpture actually is and what they would like to see it to be, in order that it may fit some theory or category which is of their own devising. And I should like to examine this problem further, by concentrating on how we look at sculpture, as opposed to how the sculptor makes it, but first we must turn to other matters of importance in the sculptor's practice.

Sculptors generally exhibit their work and try to sell it - for they must make a living. These two things also have an influence on what the sculptor makes. Let me explain. As the sculptor works he knows that the work will be seen - indeed the work is made to be seen - and most sculptors, whether they wish to or not, have some kind of imaginary audience. This is a hindrance to making the sculpture, but one which often looms its head. At the back of his mind there is always this question of how that which he is making will be received. However much he tries to ignore this there is always the worry that his friends will laugh at what he is making, or that his collectors will shun him. He must fight to expel such concerns and concentrate on the real value of the job in hand. If he worries about his fictive audience he will never get beyond pastiche.

As a student I had many teachers and influences. Jeff Lowe once said to me that one should beware of making something that looks like sculpture, but is not. I think of this constantly. Anybody can make something that looks like a sculpture; can make

something which uses sculpture's language and which superficially resembles a sculpture. Without the hard-won image it remains a resemblance, a pastiche.

There is an element of exhibitionism in making sculpture. There may be an actual audience during the course of making the sculpture and this is particularly true of works made in sculpture symposia, made usually in a public place, or large works made in a factory, where the factory workers are a kind of audience - other hands are involved. Fixed time limits often make the production of a work into a kind of performance. In certain cases sculpture events are organised wherein the sculptors actually compete against each other for prize money, and this is especially true of sculpture symposia in Italy and of ice and snow sculpture competitions. Here the whole procedure of making a sculpture has been turned into a kind of sporting event. There is a world-champion snow sculptor! In making works under such conditions there is a great deal of exhibitionism involved, exhibitionism which has little to do with the values one usually associates sculpture with.

There is another kind of exhibitionism too. A large sculpture can impress simply because of it size. In the communist countries of eastern Europe a certain style of public sculpture grew up with the communist regime. It had two main themes: the idealisation of the worker, and the representation of certain political figures as heroes of the people. Invariably these works were of enormous size. They were created for reasons of propaganda rather than from any concern for the immortalisation of aesthetic value. In consequence there are many of them which have limited aesthetic value. Yet, invariably, these works impress one simply because of their, literal, enormity.

There is a danger for the sculptor in using the elements of the language of sculpture in such a way. Over-blown size can evoke a sense of the objects power in the viewer, but it is a sense that is not in accord with the merits of the image itself and any resulting emotional response cannot be genuine, but will be, like the sculpture, sentimental. It may look like 'sculpture' but its form will be at odds with its image and it will be still-born. It will lack those realised fusions of matter, form and image essential to good sculpture.

There is another, closely related, concern of the sculptor, and that is the question of style. Confusingly, we use the word 'style' in the visual arts to mean different things. Style can mean Expressionist, Cubist or Impressionist, etc., or it can be a reference to the style of a particular artist. In the first case, 'style' refers to certain common concerns between different artists, concerns which, more often than not, are to do with the technical aspects of how a painting or sculpture are constructed. That is to say that the style reflects certain attitudes towards making an image in a painting or sculpture. When we talk about the style of a particular artist it may be used in the sense of his relationship with one of these 'isms', or it may be a critique of certain elements in the artist's works en masse.

All sculptors, whether great, good, or indifferent, may be said to have a style. As the sculptor works over time he accumulates certain experiences, certain personal idiosyncrasies, which may be said to constitute his style. The notion of an artist's personal style is not static, but dynamic. As the sculptor learns through practice small advances are made as he narrows down the almost limitless possibilities of representation to certain elements, or certain ways, which have a particular echo for him. This is his style, and it is constantly developing.

Let us return, for a moment, to the words of Patrick Heron, which I quoted at the beginning of the chapter on the optic system. These ways of seeing which painting adopts at different periods are the result of the artists of the time inhibiting their standard

patterns of seeing and finding a new sense of order in the visual world beyond. The annotations which the artist adopts to represent his new vision constitute his style.

Jeff Lowe's words hide an important problem for the artist, and one that one comes across regularly amongst young students of sculpture. For whilst the style of a sculptor should be the hard-won, slow development of a series of decisions over time, the possibility also exists of purposefully creating an 'off the peg' style, without facing the difficulties that true style requires. That is to say that one may simply borrow a style from somebody else, or even think up a distinctive 'look' for one's work. It derives from a desire for commercial success, or from exhibitionism, and can appear to be very impressive. Behind it there is an emptiness. It is all very flashy and visually exciting, even kinky or funky, but it has none of the deep seated value that sculpture may, and should, have.

"I am at our house on the hill and I try to draw the Black hill. It is covered in trees. Near the top of the hill these change to fir trees and these act like a crown. A black line appears to cut the hill at the point where the mixed trees meet this crown of darker fir trees. A series of ridges lie diagonally up the hill and appear to end in the flatness of this dark crown. My drawings are miserably inadequate. I realise that I could spend my whole life trying to get this 'right' on paper. I think of Cézanne and the Mont St. Victoire. How difficult, and how much time is needed, to get some little piece of the world down in a true way, without using the hollow tricks. One needs to invent a whole new language of drawing to put this hill on paper." (21. 5. 96, from my notebook.)

Before we leave the problems of the sculptor's practice there is one more topic with which I should like to deal. It is that of drawing. Drawing is one of the most exacting disciplines that man has evolved, and one which allows little room for exhibitionism and half truths. Drawing may be approached in various ways and it is quite common for the sculptor to use many different kinds of 'drawing' at various times. There is drawing which is jotting in notebooks as a kind of visual reminder and drawing that is a quick sketch to explain something to somebody else. There are drawings which are explorations of visual ideas for some future, or current, project and there are drawings made of things in the world. The first two kinds of drawing are unproblematic - that is to say that they are just done as a matter of course, automatically, without thinking. The latter two kinds are more difficult as, again, there may be a market for these, they may be exhibited, and consequently a self-consciousness may be inhibiting.

When we draw in the latter sense we try to break down the veils which our optic system throws between us and the world. We try to see beyond the imagined lines and see what is really there. We must look as hard as we possibly can and, having done this, we must then look even harder. We must employ those inhibitors against our conventionally learnt ways of seeing, which I wrote of earlier. The learnt patterns of seeing, themselves, block our real ability to see. The artist must break through these learnt perceptory patterns and see afresh each time he begins to draw.

When we draw we make a series of marks to denote what we are seeing. These marks are representational - they try to record what, and how, we are seeing. They are not the actual thing and we must therefore employ a system of representation. Such systems may be learnt, and it is these tricks which we are taught in drawing lessons in school. These are conventions, and must be treated as such. They are rules which are meant to be, indeed must be, broken. It is possible to draw with all the tricks of a convention, to make a good looking image, and yet to make an empty drawing. The drawing, despite all its professionalism, does not go beyond the conventions and remains

an illustration. It does not contain truth, merely convention. It is Lowe's 'sculpture' that merely looks like a sculpture should look. One must not draw to impress others, one must draw to see that which is real. The drawings one makes may 'look' terrible. They may be clumsy and technically incompetent and, indeed, have to be, if they are to go beyond the tricks of drawing teachers.

Drawings reveal. They reveal the experience of the sculptor in front of the drawn thing, and in a way that may be uncomfortable for the sculptor. They reveal the depth, or the shallowness, of his experience. They reveal the sincerity of this experience, its degree of profundity, or they reveal empty style and failure. In drawing the sculptor cannot be bombastic, he may not be over-blown. For if he is, he will not get away with it.

Chapter 2 Looking at sculpture

"It is 1973 and I am studying for my bachelors degree in Nottingham. Viktor Burgin gives a series of lectures on semiotics. He argues, with a large dose of help from Sassure, that the language we use has a structure that in turn both structures and limits the way in which we view the world. He uses the simple example of the Eskimo language which has a great number of words for what we call snow. In the English language there are only three words - hail, sleet, snow - although I, as a mountaineer know, several more, such as "spindrift". It follows from this that the Eskimo has a far greater capacity for distinguishing between different types of snow, whilst English speakers are prevented from distinguishing types of snow, beyond those permitted by their limited linguistic language."

What Burgin failed to accommodate within his reasoning was the difference between spoken language, and that language which is the subject of my present discourse - the visual language. Whilst he was certainly correct in thinking that the language we use inhibits our ability to perceive, he allowed no room for a language that is without words, a language which is also limited, that is to say, limited by the sensory system which is its prime mover.

I have tried to show that sculpture has two languages, closely interwoven, but also distinct - that subliminal language which the sculptor uses when working and a second, much more linguistically developed language, which is used when analysing and talking about sculpture. Again David Smith gives a good description of the difference between these two languages;

"The words I use in talking about art do not bear close relationship to making art, nor are they necessary directives or useful explanations. They may represent views that govern some choice in sublimation - censored exchange or as opposites. When I work the train of thought has no words, it is simply all in the visual world, the language is image." [127]

I should now like to look at how the viewer understands these languages of sculpture - the visual and the linguistic.

The viewer may be an art historian or critic. He may be a sculptor or painter. He may work in a supermarket and have an interest in art, or he may know nothing of, and take no interest in, art. Now all these people are capable of a response to a piece of sculpture and will, often, gladly voice opinions. The response of the non-sculptor professionals will probably be a mixture of actual momentary sensual experience coupled with acquired cultural knowledge and will often, rather quickly, pass into the left side of the brain where analytic and language functions have their seat. The untrained eye may also have a very real response which is rooted in the functions of the right side of the brain. They may feel the sculpture's rightness, its power (or indeed its failures) without resource to learnt cultural experience, but as a direct response. It may even be similar to those intense moments we feel sometimes when seeing a beautiful landscape or the sea pounding the cliffs during a storm. There is no need for analysis or thinking. It is what Wheeler called the *"feeling of being in accord with life, with nature, and the world."* [††]

[††] See beginning of previous chapter.

I should now like to study more closely how we look at sculpture and to do this I should like to take an example. I choose Constantin Brancusi Maiastra in the Tate Gallery, London. It is a work that I know well and which I always try to visit when I am in London. The sculpture is small and unassuming. I must have passed it many times without seeing it, before I looked it up following my study of Brancusi's work in Paris some twenty years ago.

Unlike much of Brancusi's work it does not have a complete base. It is set on a stone, in itself carved, but this is then placed on a museum box. When Serota began his famous re-hangs at the Tate he had the work placed on a thin, column-like base several metres high. It looked rather ridiculous as thus it purported to be a 'monumental' work, which it certainly is not. It is a very private sculpture and normally it stands on a base slightly below eye level. [128]

The work is made of bronze, or perhaps brass - its colour is that of brass - which has been highly polished. Knowing its background is immaterial to our appreciation of the work, but it supposedly 'represents' a mythical bird from Rumanian folk tales. The base, as I have said is a lightly decorated block of stone, which tapers at the bottom. This tapering contributes to a feeling that the sculpture, although rooted on the ground, is capable of 'taking off' into flight. In another version of the work in the collection of Mr. and Mrs. John Cowles, Minneapolis, Minnesota, the effect of the base is quite different. Also of stone, the sides are cut in one plane in a zig-zag pattern and this firmly roots the work to the ground.

The sculpture bears some resemblance to a bird. There is a curved neck-form tapering into an indentation which stands for a mouth and a larger, overblown form standing for a body, of which the back part tapers down until it reaches the stone support. At the front of this 'wing' configuration, coming out of the base and tapering towards the form of the body, is a rather mechanical wedge of material, which seems to have a number of functions. Firstly it functions visually as a physical support for the large mass of the body form above it. Secondly it counterpoints the tapering of the wings, tapering as it does in the opposite direction to them. It also acts as a counterpoint to all the forms of the sculpture, having a kind of geometric quality caused by its edges, in what is otherwise a very rounded work.

The more one looks at the work, the more it seems to grow. It is small in size but its scale is enormous. There are a number of factors which may contribute to this effect. Firstly there is the poise of the sculpture. It seems to be perfectly in balance between two states - the state of rest and the potential state of flight. Secondly its polished surface catches and reflects light. It, like many of Brancusi's polished works, seems to act as a centre of the surrounding space, a point which sucks in the light and reflects it back with distortions caused by the contours of its form-bound surface. This effect is best witnessed when his works are placed near the centre of the room and not pushed up against walls, as so often happens in museums. (There is a work in the modern collection in Vienna which activates the whole space around it, despite being set in what is a rather densely packed collection). A third may be its overwhelming sense of wholeness. The curves of the forms lead the eye around and around the work and in a way in which the whole volition is to the top. The slit of the mouth is like a comma, which temporarily arrests the wandering eye, but does not stop it, before it continues its journey down the front of the neck and over the swelling body. As the eye travels slowly down over the belly the undercurve leads back into the wings, which shoot its path upwards again, or it may travel down the support-like protrusion where it hits the 'ground' so hard that it bounces upwards again.

There is a simple but pertinent statement made by the sculptor Glyn Williams when describing an ancient Mexican sculpture in a show he was reviewing;

"One has never seen anything like it before and yet it is completely believable as an object; it has the confidence and clarity of a functional artefact. Complete credibility presented in new form is what singles out the world's greatest sculptures, and this is certainly one of them." [129]

I think this may be applied to this Brancusi sculpture too.

I have tried, here, to give a description in words of the physical nature of this object. I have never, until know, tried to make an analysis of this work in such a way. On the many occasions that I have seen this work it has never been necessary. I do not usually 'look' at sculpture in this way. I have said nothing of its meaning, nothing of why it moves me and nothing of how I always feel so enriched for having studied it, after my many visits to see it. It may be that these feelings are aroused, as Baumgartner would have it, through the very nature of my optic system - that its form has an empathy with the form of my optic system. Perhaps some deep psychological recognition is invoked, as the Jungian psychologists would have it, or differently as the British 'Object-Relations' school would have it. It is at this point that words become useless. We might write at length about what this Brancusi sculpture expresses and, indeed, what Brancusi was trying to do with it, but I think that we would come not much nearer to understanding. As I have already said, sculpture is a language without words. However much we may have read about Brancusi, however much we may speak or write about him, these words do not assist us in the act of looking. Indeed, they may even hinder us. The act of looking at, and the aesthetic experience resulting from this looking, is in no way governed by words. We may later analyse the work, as I have done to some extent above and we may set it in some kind of context with other works of art, or indeed other non-art objects, but this is secondary and nothing to do with the act of looking at the sculpture. The act of looking is a function of our body, whose rules are determined by our given biological system. Our aesthetic response is a residue of the workings of the system. The rest - analysis, contextual and critical evaluation - are of another order. This is why our fictive supermarket worker who knows nothing about art can have an aesthetic response to Brancusi's sculpture, just as I do. Not knowing about twentieth century sculpture and the seminal role of Brancusi, is of no hindrance. She, and I also, may respond in the same way to the work of our unknown ancient Egyptian sculptor, or to the Cycladic figurine that I spoke of earlier.

It would be easy to stop here and disregard the vast amount of words that have been written about the history of sculpture as being irrelevant appendages to our appreciation of a sculpture as a visual thing, whose meaning resides in, and is of, the visual. This would be silly, for Popper's World Three, the world of knowledge, undoubtedly has a role to play in our appreciation of sculpture. My argument is with the balance. Our obsession with words and the intellect have tended to make us forget the real experience of sculpture and to befuddle it with concepts of confusion. A lack of belief and sense of security of our place in the order of things lead us to try to analyse everything, including our experiences. The analysis has become more important than the experience itself. We value the analysis at the expense of the experience.

Of course art history has a role. I have been at pains to show that the 'instruments' of our faculties are genetically given, but that we must learn how to use these faculties. We can train our eye to respond to the movements of a tennis ball and we can train our

ear to hear the nuances of a symphony and its orchestration. What art history can undoubtedly do is help us to develop our sense of the visual and those values associated with it. We can learn about the tricks that have been employed at various times to create illusion - for example Renaissance perspective, or Cubist space, in painting. We can learn colour theories and learn about shape, form etc, etc. We can even learn complicated constructions about how these might convey meaning. This knowledge is acquired by reading and by looking at sculpture through the eyes of this knowledge. Such knowledge may conceivably affect our prime visual response too, but this is something that cannot be proved and something that I suspect is not true. I really do believe that, however much we know, those moments of primal awareness which we can experience when looking at a sculpture or listening to Mozart, are not affected by accrued knowledge. They may, however, be more readily available to our ability to perceive through our improved, accrued, capacity to break down the veil which the functioning of the eye and ear put before the world. Ultimately, art history is for the viewer of art. The artist has no use for the contextual and analytical, accept to analyse how another sculptor has created a particular effect, as a prelude to incorporating it into his own work. Otherwise David Smith is right;

"Historically, he (the sculptor) *is not subject to what a pedant thinks another artist thought, when he has direct communication with artists of all ages, in their own language..."* [130]

In short, what differs between the way we look at sculpture from the way the sculptor 'thinks' whilst producing it, might be summed up as follows. The viewer brings to the work a collection of experiences and knowledge and generally applies this to his appreciation of the work. It is exactly the type of experience and knowledge, which the viewer brings to the work, which the sculptor must forget, when making the work. The sculptor must begin again from a point of artificial innocence each time he makes a work. He must, at the same time, aspire to make an image which is profoundly moving or profoundly meaningful to the viewer. The viewer may have difficulty in 'seeing' a piece of sculpture because he is not used to using those inhibitors which break down the usual patterns of seeing which he employs.

There are exceptions to this rule. One, when the viewer experiences one of those rare moments when he is profoundly moved by the sculpture. These moments are outside of rational evaluation. The second exception is that of the 'rational' sculptor and I believe that Tony Cragg may be classified as such.

Chapter 3 The sculpture of Tony Cragg

"Tony Cragg makes visible the language of sculpture itself."

I wrote this note to myself when I began to write this thesis and I should like to use Cragg's work as an example to show the way in which a sculpture encodes meaning through its image.

I cannot say that I particularly enjoy Cragg's work - in some ways it is the antithesis of what I think the proper role of sculpture to be. Yet, having said this, Cragg's sculptures are indeed memorable. They worry me as I find it difficult to place them into a niche in my thinking and long after I have left their presence their image remains burnt in my conscious memory. I have come to realise that the reason for this is perhaps because they deal with the fundamental language of sculpture and the way in which we see sculpture, as the subject of the work, and this in a very raw way. Demosthenes Davvetas has said that;

"Indeed, every new development in his work can be read as a penetrating critique of man in his environment. Tony Cragg sets the natural world against the world produced by man and studies their interaction. In this way, we see, in the rawness of the materials he uses, the first stage of matter battling against the cultural structures which dominate our ways of thinking." [131]

In my first chapter I outlined some of the aspects of sculpture's visual language and I should now like to illustrate these in action through some of Cragg's works. The first thing to say about Cragg's works are that they are not objects in the sense that I have so far argued sculpture to be. Generally they tend to be a kind of tableau of found things out of which he constructs a new image. Their visual impact is very strong and there is a strange aura about them. One is looking at something which, in its parts, is one thing, and in the totality of the parts together, something quite different. We may understand this better by looking at some examples.

Cragg went through a long period of making images constructed of plastic waste. Pieces of found plastic were arranged alongside each other on the wall or floor and their outlines and internal patterns constituted an image of something else. A good example is Policeman of 1988. The work is made of a number of found blue plastic elements. One cannot tell if these have been arranged in their found state, or whether some have been directly cut to fill their role as parts in the overall image - I suspect that the latter is true, but it is perhaps unimportant. Many of the elements are recognisable things in their own right, for example the lid of a large plastic paint tub and some plastic bottles. All the elements are mounted on a white wall, none of them touching, and visually fixed there only in as much as they relate to the overall image. The image of the policeman is 'dressed' in riot gear, 'wearing' a strapped helmet with raised visor and a flap to protect his neck, and 'carries' a shield and long baton, apparently both in the same hand. One must assume that the shield is 'suspended' from what appears to be a strap and is in front of the baton. Our eye constructs a sense of depth, in which the figure 'stands' in profile. On the free arm, nearest to us, a cuff is denoted by the head of what appears to be a broken canoe paddle and another piece of plastic at the top of the arm acts as 'stripes'. In other words the policeman 'is' in uniform.

Now one must understand that this image is entirely constructed through illusion. The juxtaposed plastic parts relate to each other by line and shape and thus the illusion is conjured up of the image of a policeman in riot gear. It is left to the viewer to construct the image out of the separate elements. What is interesting is that there is little room for ambiguity in ones reading of what the different parts stand for. Cragg has tight control of the way in which we respond visually to the work.

In the interview with Davvetas Cragg states that;

"Sculpture is not a single image, but all the images that one can draw from an object. Sculpture is more of a real thing; it must be linked to the body, to displacement, to the world. It is more a question of experience than a question of image. it's all about expressing something."

When asked if he considers himself to be a sculptor he answers that;

"Yes. It's the most appropriate way to describe my activity, although I am not keen on the idea of object maker."

These two statements are apparently contradictory and may serve as a good example of the difficulties sculptors get into when they use the language of words to describe their activity. Firstly he does not like the idea of 'object maker' and yet wishes us to draw all the images we can from the 'object', and secondly he confuses the idea of image in his work. It is essential to the nature of 'Policeman' that it is one specific image. One is unable, because of the very nature of the work, to draw any other images from it. It would not work as an image and as a sculpture if this were so. Therefore, by its nature, such a work is incapable of expressing anything. What it does do, more than any other image I can think of, is literally lay bare the way in which our visual system and mind construct an image through the illusion created by line, shape, material, space, etc. - i.e. the language of sculpture. This is Cragg's, not inconsiderable, achievement.

There is the a temptation to leave Cragg here, but it would be unfair and unworthy not to study further his considerable oeuvre. I should now like to look at what one might describe as his 'furniture' works. I should like to use two examples here, 'Village' 1988 and 'Taxi !' of 1983. 'Village' consists of four 'houses' constructed from wood, and a table. Two houses are on the floor under the table and two stand atop. The houses are approximately house-shaped, with irregular, rustic, geometry and no details - no doors, windows or chimneys. They are irregular gabled box-like shapes with a sloping top, or roof. 'Taxi !' consists of a wooden drum, (the sort on which wire is coiled for storage and transport), which supports an upended box and a wooden sheet behind it. Behind this stands a thin wooden disc. A pair of shoes are placed in the box and a closed violin case lies on its side on top of it. A long tube is juxtaposed into the composition, leaning, unlike the box and back-plate which are vertical, at an angle. The bottom of the tube almost falls off the base drum as it rests at its mid-point against the upper side of the box. All the elements of both works are covered in a scrawl of drawn lines - black in the case of 'Village', white in 'Taxi !'.

These works are clearly of a different order from the plastic works which were essentially flat and pictorial. In the plastic works there was an implication of depth within the image, as I have shown in my description of the riot policeman, whilst the actual depth of the plastic elements was immaterial to the nature of the image. In these 'furniture' works three dimensionality has a much greater role - they consist of objects arranged in real space and not the artificial pictorial space of 'Policeman'. In 'Taxi!' the

parts may be simply found parts which are un-worked. In 'Village' the houses have obviously been made by Cragg, whilst the table is almost certainly found.

The arrangement of parts seems casual, especially in the case of 'village' and would visually be accidental were it not for the drawn lines which visually hold the different elements together in some kind of relationship. Viewed from certain positions these lines appear to continue across the different elements and it is they alone which create a sense of fixed relationships between the parts, in our minds.

The image created by the juxtaposition of the parts in these works is much more esoteric than that of 'Policeman'. In 'Policeman', as I have tried to show, the sculpture was about the way in which our visual sense constructs the image. Any further associations aroused by the image are totally incidental and uninteresting. Indeed the nature of the object is such that it specifically does not invoke our capacity to associate. 'Village' and 'Taxi !' work in quite a different way.

The houses in 'Village' are irregular. They invite one to associate them with the houses of a real village which are, indeed, often rustic and irregular. They invite one to imagine a sculpture by Cragg that would be called 'Town' in which the houses would be of a rigidly geometric nature. The seemingly random placement of the houses is also typical of a village, where the positions of buildings has developed through use and practicality over a long period of time and not, generally, through planning decisions made by city councillors. The kitchen table, with its essential drawer is like one found in almost every village home and, around which village life revolves, as anyone who, like me, lives in a village will know. [132] That the table is above two of the houses and under the other two also raises certain associations in one's mind. Here the table is at the physical centre of the sculpture and, by association, of village life. It shelters two of the houses, suggesting that without the table there would be no community and no life in the village. It also supports two of the houses suggesting that the table is that which is the fundament of village life.

The exclamation mark in the title of 'Taxi!' is very important. It implies a situation - that of someone calling for a taxi as they have to transport this luggage that is the sculpture. One is invited to view the wooden plate as a wall, the box as a cupboard or shelves, and the shoes and the violin as someone's clothes and 'things' respectively. The tube may be a roll of drawings or a roll of wallpaper, or perhaps just a tube, a waste water pipe. Most importantly, the title and the apparently accidental nature of the juxtaposition of the parts in the sculpture, suggest that someone has packed them together thus in preparation for moving them.

In both these works the title is integral to our understanding of the sculpture. If we did not know that 'Village' is thus named we would almost certainly not make the associations I have just made. Just so with 'Taxi !' These two sculptures then must be viewed as metaphors for their titles. Without the titles they would seem to be a rather random arrangement of objects, interesting or not, in themselves. The titles focus our attention and invite us to view these arrangements in a specific way. The titles focus the works as image. We now have a sculpture that is a metaphorical image of the village and another that is a metaphorical image of someone waiting for a taxi. The title unifies the parts in an image and directs our response.

These works of Cragg's appeal to our logical reasoning. What I have chosen to call our empathetic capacity has little role in our reading of his work. Our reaction to it is not based in the purely visual, but in an intellectual evaluation of the works before us. If 'Policeman' makes visible the way in which our visual capacities operate, then 'Village', and 'Taxi !', dependant as they are on their titles for meaning, are a visual demonstration of the way in which objects trigger mental associations. Again, these

aroused associations seem to be quite specific, almost didactic. I see no evidence for the possibility of 'expression' within these works. Their appeal is not to the emotions and they do not express anything about the world outside of themselves. They illustrate. They seem to operate in a totally rational, intellectual way, in which the way we see them is bound by their context in a gallery or museum and by their title. They are encoded messages, easily readable. Once one has read the message there is nothing else. Intrinsically they are not interesting. They are memorable for the images which they construct.

There is nothing that relates 'village' to the real experience of living in a village. The sculpture is simply a conceptual notion of two aspects of village life - that in a village the houses are not straight, and that the kitchen table is central to that village life. Lacking a basis in real experience the possibility of expression is excluded. 'Village' and 'Taxi !' are gestures which make visible the way that our minds associate objects in a metaphorical sense. This is their, and Cragg's, achievement, but let us not confuse this with 'expression'.

Sculptures do not express anything. They encode. They can encode intellectual meaning, as in the case of Cragg, or they can encode a direct sensual response, as in the case of Brancusi. What we confusingly refer to as expression is not latent in the sculpture. A sculpture cannot express anything. It may trigger something in the mind of the viewer, which the viewer mistakenly calls the 'expression' of the sculpture. 'Expression' is the viewer's. The viewer creates the notion of that which the sculpture encodes as 'expressing' something. Cragg's work is an extraordinary example of sculpture that encodes meaning in such a specific intellectual way, that it virtually excludes the possibility of the viewer finding 'expression' in it.

Cragg's works have involved an interaction with a wide range of materials and cover a considerable range of styles. Yet, each time I look at Cragg's work, whether it is a piece made of arranged metal retorts, a plastic piece, a furniture piece, or a work made in clay, I feel the same thing. I feel that his works always invoke in me a state of self-consciousness. That is to say that they make me aware of how I am looking at them, and this self-consciousness which the works invoke, excludes any possibility of the sculptures arousing any other response to them. However interesting they are - however visually awkward and arresting - they have, so far, always been lacking for me, being of the rational world and without magic. Being all 'of the head' and thus dependant on rational evaluation, they fail to move me in any deep way, however thought provoking they may be. They do not refer to the world outside of sculpture, to life, nor to our experience of these. They are about the language of sculpture itself and about the way in which the language of sculpture is able to encode ideas.

You may notice a difference between the way in which I have written about Cragg's work and the way in which I wrote earlier of Brancusi's sculpture in the Tate Gallery. Cragg's work appeals to the intellect. It encodes an intellectual reaction using language. One may talk about what it 'means', for Cragg's work is essentially narrative in nature; perhaps even literary. The Brancusi, on the other hand, involves a direct appeal to our visual senses. It is an embodiment, a manifestation of force. However much one may wish to describe it and its meaning one will never come near. It defies linguistic description of its meaning simply because it is not of 'word' language. It is of quite a different order from Cragg's work. It invokes a much deeper response in us than Cragg,

a response of empathy with this mysterious, indescribable, un-graspable thing. For me, this is sculpture at its greatest.

Chapter 4 Carl Andre and 'The Bricks'

In the 1970's the Tate Gallery in London purchased Equivalent VIII, a sculpture by Carl Andre. Scandal ensued, or at least the popular press did its best to arouse one. Twenty years on we may look differently at the matter.

The sculpture in question consists of a stack of bricks laid out on the floor. They are ordinary bricks and indeed Andre had resold them to the merchant from whom he purchased them when they remained unsold, (as art, that is), after their first showing. When the Tate approached him he simply bought some new bricks and re-stacked the piece and 'took the money and ran'. I suppose that the Tate's directors were not prepared for the scandal that was to ensue. So what was the problem with this work?

The popular press asked all the obvious questions - how could a stack of un-worked bricks be art; how could the artist charge so much for a stack of ordinary bricks; how could he resell the art work to the brick merchant at cost price, re-buy the bricks, as bricks, and sell them to the Tate, much more expensively, as art; what business did the Tate have buying expensive bricks; why did not the Tate buy ordinary-priced bricks and make the work themselves, etc, etc. It was as if the press, who normally cares nothing about sculpture, had suddenly decided to take a moral stance and 'put modern sculpture right'. The whole story lasted a few days, was prolonged when somebody vandalised the work by throwing paint on it, and then died, as the press left sculpture to fight for itself and the popular papers returned to their more usual form of pornography. Perhaps I should apologise for bringing the bricks scandal up again.

When I finally saw the restored sculpture I was not over impressed. I bumped into a sculptor friend beside it, who muttered that there is no way of telling if it is hollow or not. This was true. One could count the number of bricks which were visible and guess the number that were inside; one could see that the whole stack resembled the shape of one of the individual bricks from which it was made; one could see that they were real, un-worked, stacked bricks. I suppose one could have contemplated on a mass of mathematical relationships in the work, if there were any - I did not. That was it, unless I missed something.

Equivalent VIII was a 'sculpture' because it had been put in a gallery. It was and is a stack of bricks. Its context invited us to look at it as a piece of sculpture and this implies a different way of looking. As a 'visual' person I often look at such things in builders merchants and enjoy them visually, just as I can enjoy a good tree, a pile of wood, raw blocks of stone, or a pretty girl. These are not sculpture and presenting them in an art context does not make sculpture of them either. We may look at the pile of bricks because it is in the Tate, whereas we probably would have not if they were stumbled upon in the real world. We will probably react in a certain 'art-way', perhaps similar to the way that I have described above, and maybe at that time, in the seventies, our reaction might have been tempered with a degree of shock or surprise. We might know about Duchamp and Minimal sculpture. Whatever, I suspect that our prime response was not of a profound kind. We see so many 'ordinary' things in the course of every day that we ignore most of them. This one may have surprised us, for what was it doing in the Tate?

If we really try hard we can squeeze some kind of 'meaning' or 'value' out of Equivalent VIII. It may really have some deep mathematical logic to it that I have missed. It does not offend me in any way. I am quite happy for it to be in the Tate - it does say something about art in the 70's. Actually it just bores me. I can think of little that is more mundane, unless it is another Carl Andre sculpture which we can see in so many of the major museums around the world.

But, enough. I have no wish to trash Carl Andre here, but rather to point out my personal prejudice. In fact Andre was significant in that he was a kind of final point in the deconstruction of sculpture. Andre pared sculpture down to the point where there was nothing left - no meaning, no aesthetic response, just mind boggling boredom. This was Andre's purpose - to debunk sculpture of all value. After this nadir sculpture could only become richer again, or die.

In an awful kind of way Andre was profoundly honest. He made sculpture that was devoid of meaning - in the sense of the traditional meaning of sculpture - and thus devoid of function, except as merchandise. I can think of little that reflects better the state of the intellectual, moral and political bankruptcy of the 1970's. Peter Fuller spoke of the lack of a shared symbolic order which the contemporary artist has to work in absence of. Andre, in his gesturing, epitomised this state of the arts. Andre chose to bring into the gallery a piece of the real world, unaltered. He did not try to encode a truth about the real world in an object, but merely presented a rather uninteresting piece of that world in what purported to be a sculpture. It does not properly deserve the appellation, if the word 'sculpture' is to have any meaning.

Andre's work says nothing of the world, nothing about our being in it and nothing even about the language of sculpture itself. It does, perhaps, say something about the lack of judgement prevalent amongst museum curators, and a great deal about the way in which 'sculpture' has become a market commodity with a financial value far in excess of any worth that it may have. This is my prejudice. This is why Andre does not, for me, make sculpture. If Tony Cragg's work is an example of, what I have chosen to call, 'intellectual' sculpture at its best, then Carl Andre's work is intellectual sculpture at its worst.

Before I leave Andre, I must mention one final thought. Andre accepted the emptiness. His work lays bare the moral and spiritual emptiness of our society. We, or at least our repositories for art, the museums, value this nothingness. From this point of view Andre's work contains some truth. This is a truth of context, of a sociological and social nature. The work itself does not encode it. Its context in the gallery does. When I look around at what else is going on in sculpture; when I look at what I am doing, I can, in moments of despondency, believe that Andre's stance is more truthful than that of those of us who try to make sculpture a meaningful language once again, in a society that does not have much use for it. [135]

Chapter 5 Michelangelo

It is 1979, my time as Sculpture Fellow at Bath Academy of Art. I take delight in walking in the gardens of Corsham Hall, of a weekend. On one occasion I meet Lord Methuen and we fall into conversation. He invites me to look at his Michelangelo. I am excited at the prospect and, yet, soon disappointed at the sight of the small, uninteresting putti. My only previous experience of seeing Michelangelo's work was that of the Royal Academy's Tondo, which was hung in such a bad place that it was impossible to see - although I have subsequently been rewarded with a closer look - and the Dying Slave in the Louvre in Paris. The latter seemed to have much more to say much about eroticism and, quite contrary to its title, seemed to be more about sensuous life, than dying. I must confess that my impressions of Michelangelo at this point are not exactly of a profound kind, indeed....

I think it was in 1982 that I finally visited Italy with the distinct intention of studying Michelangelo's work. I had always been fascinated, in particular, by the late Pietas, which, of course, I knew only from photographs. It was a profound experience to see them 'in the flesh'.

If you are expecting here an evaluation of that which I hold to be of extreme value in sculpture, you may be disappointed. Michelangelo's work is, for me, problematic, but I hope that I can show through it the range of responses which a sculpture may encode.

I should, as I have already criticised Fuller's and Freud's analysis of it, perhaps, begin with his Moses. It is a sculpture which, for me, falls into a similar category as his David. That is to say, that it encodes on several different levels. Firstly, it is narrative. It tells a story. Freud elaborated this in time, as a moment after a series of actions and I agree with Fuller that his analysis was wrong. The story that it would appear to represent, or relate, is that of the moment when Moses receives the tablets from God, turns and sees that the people are dancing around a golden calf that they have made.[134] He is angry. Freud and Fuller make much of the position of the right hand. I think that the matter is quite simple. The right hand is, whilst holding the tablets and Moses' beard, also pointing in the direction of his gaze, whilst his left hand is pointing towards the tablets. One can almost imagine a cartoonists balloon coming from his mouth saying something like, 'I'm really pissed off with you lot. The real God has given us this gift and you are dancing round that idol like a lot of pagans.' This, of course, sounds crude and rather cynical, but I do believe that, at the level of the story teller, Michelangelo's sculpture was, often, extremely weak, employing, as it does in this case, some extremely banal devices. If we look at his David, from the point of view of its narrative, my argument will, hopefully, become clearer. The David of the Bible story, was a small weak boy, who slew the giant Goliath. Michelangelo's David is, on the other hand, a specimen of the human physique at its most perfect and strong. There is little in the sculpture which actually equates it with its subject. In both of these sculptures Michelangelo fails, for me, at the narrative level.

Now let us imagine that we see either of these sculptures without knowing their titles. Fuller states that;

"Michelangelo has deliberately left Moses with the traditional horns which he sports in medieval imagery. He must have known that these were derived from a mistranslation of the Hebrew word for 'ray of light'. But he retains them to emphasise the sensuality, earthiness, perhaps even the sexual potency of his figure." [135]

I would suggest that Michelangelo retained the horns as a sign that his sculpture actually depicts Moses, for without this indication based in tradition, we would have no inkling that this is not just a figure of a bearded scholar holding some books. With the David there is even less which connects the sculpture to its narrative subject - merely a rather unconvincing sling and a hand which cups an invisible stone shot.

I can understand Michelangelo's dilemma. The narrative subject of the sculptures was of no real interest to him. It was entirely a secondary concern and Freud's fascination with the narrative aspects only confirm his lack of understanding, which Fuller, for different reasons, also attributes to his text;

"... I am no connoisseur in art, but simply a layman. I have often observed that the subject-matter of works of art has a stronger attraction to me than their formal and technical qualities, though to the artist their value lies first and foremost in these latter. I am unable rightly to appreciate many of the methods used and the effects obtained in art." [136]

Freud's problem is that he constructs a complicated reading of the work, based on its narrative, a narrative which the sculpture does not, successfully encode. Freud has made the mistake, as Fuller so often did, of using his vast knowledge - and his particular knowledge, in this case concerning the story of Moses, - to evaluate the work in terms which are simply not encoded within it. What concerned Michelangelo, here, was clearly of quite a different order, for when he wished to be 'narrative' he could be so at a high level, as is witnessed by his Pieta in St. Peters in Rome, and even more so in his frescoes for the Sistene Chapel. The real 'message' of the two works is rather 'embodied', as I chose to put it in my first chapter, for want of a better term.

Now Freud also says that, to the artist, the value of works of art lie in their formal and technical qualities. This is again quite wrong. These things, in themselves, have no value. They are tools, or means to an end. For the artist it is the final image and the responses which it, actually, encodes, which have value for him. Naturally another sculptor looking at the work, and indeed Michelangelo himself, pays attention to formal concerns, for this is his language. But it is a language which only has value in relation to the final image and its successful, or unsuccessful, encoding of meaning. The failure of so many writers on art, to understand this leads them to make, as Freud did in his study of Moses, interpolations which the work itself does not carry. In other words, Freud was writing about what he, the viewer, was bringing to the work, and not about what is extant within it.

The problem of this associative approach to looking at art, as employed here by Freud, is that it, as a method, negates the possibility of absolute aesthetic value in art. For if each viewer brings his own intellectual clutter to the work, the possibility of consensus is denied. Absolute aesthetic value may only be understood if the viewer concentrates strictly on what is actually extant, that which is encoded, within the work. This is why I have found it necessary to place the source of aesthetic appreciation in a physiologically based response to the object. Associations which the sculpture may arouse are, if not specifically encoded as part of the image, personal to the viewer and cannot therefore be considered in any system of aesthetic value. For value, if it is to have any meaning at all as a concept, must be shared.

If these two works of Michelangelo encode their story rather weakly they certainly work at other levels in a much more forceful way. I remember going into the art school's bronze foundry at Manchester for the first time and seeing on the wall a plaster cast of an eye. I immediately recognised it as a cast taken from Michelangelo's David, although

I had never even, actually, seen the work at the time. Just recently I was staying in my friend's studio in Finland where there were several other, easily recognisable, bits of David. Both Moses and David have an extraordinary presence. In both works the representation of a facial expression is extremely forceful, just as, in both works, the hands have a major importance. Here, Fuller's attempt to describe the facial expression of Moses seems lacking. Indeed, I think that one can never describe it adequately, for the facial expressions of both the Moses and David, appear to change the more one looks at them. If the viewer's eye concentrates on the mouth one will experience something other than if it lingers on, say, the sculpture's eye. The whole of the facial expression is certainly something more than the parts.

This presence is constructed, too, by the almost over-brimming sense of strength within the bodies. Michelangelo seems, actually, to be much more interested in the muscular power of his models, than in the theme which they are supposed to illustrate. They are extraordinarily well-carved and one can, certainly as a sculptor, feel the excitement with which Michelangelo caressed the muscular forms out of the stone. The detail of the cloth and the beard in the Moses is quite remarkable and he has clearly gone to great lengths to activate every inch of the stone's surface. The folds of the cloth are very deeply cut and are so visually heavy as a result of this, as is the beard. Contrary to Freud's analysis, the figure seems so heavy as to be incapable of movement.

The power of Moses, and it is visually the power of the figure which would seem to be the real subject of the work, is embodied throughout the work. Everything in it contributes to a sense of terrible, frightening power, as if the figure might burst out from its skin. Even the rather limpid, draped right hand acts as a counterpoint to the enormous muscularity of the left arm and so increases its strength. It is a hand which is almost a trade-mark of Michelangelo. It has a visual quality similar to the limpid hand of the Creation of Adam, in the Sistene Chapel, and it is there again in the Dying Slave in the Louvre. It is even present in the right hand of Christ in the Pieta in Florence. It is a technical device, and one which Leonardo also employed in his Madonna of the Rocks. this limpid hand suggests a form of grace, stylised, though it may be. It is through such tender, graceful, passages that Michelangelo is able to, (contrary to Leonardo's intention), to make some of the other passages of the work seem so powerful, in contrast.

I could go on to describe the purely formal aspects of line, shape, etc., but I think that it is unnecessary. I must, finally, return to the image. The image of both the sculptures are quite other than that which they purport to represent. The entire merit of both the works has nothing to do with the subjects that they are supposed to represent and, in this sense, they must be regarded as failures. But only in this sense. The matching of image to theme has not been successful, although the images in themselves are enthralling.

We should, now, compare these two sculptures to the Dying Slave in Paris. It also has nothing to do with its subject - dying. It works quite differently, though, from the Moses and David. Michelangelo has made a work whose actual subject would seem to be a male figure in the throws of experiencing agony, (or ecstasy, for they are visually almost indistinguishable). The problem here, and this is why it is for me one of his least satisfactory works, is that he has tried to literally illustrate this. He has copied a pose and facial expression which is perhaps analogous to this feeling. He has done it very self-consciously and, for this reason, the work is rather sentimental. He has not embodied the notion within every passage of the work, as he did do in Moses and David, but rather carved what he intellectually understood to be a pose that illustrates this emotion. The carving is brilliant, as always with Michelangelo, but the resulting image is extremely weak. It, perhaps alone amongst his works, has, almost, the quality of a Chippendale. It

is a work whose pose is excessively erotic and, exceeding the bounds of a healthy interest in the human body, has become tainted with an over-spilling sexual desire. This would not be bad if the sculpture really technically embodied this desire, but it, rather, illustrates it in a sentimental way. It is almost a three-dimensional pin-up. Illustration, in this sense, has to be avoided in the making of sculpture.

You may have noticed that I have not mentioned empathy in connection with any of these two works. The reason for this is that they simply do not arouse this capacity in me. The late Pietas do, and, after years of consideration, I think I have an inkling of why this is. Let me explain.

On that first visit to Italy I had very little money and my time was therefore limited. I had prepared a short list of 'musts', at the top of which was the Rondanini Pieta in Milan. I sought it out and, during two days in the city, saw nothing else. I returned to it again and again to check that it was still there and still profoundly moving. It was, and I suspect, still is.

Of course the work was unfinished at Michelangelo's death. Its most noticeable characteristic is the presence of two right arms on the Christ figure. Michelangelo deliberately broke the stone in his dissatisfaction. The figure of Mary, much too young to be Christ's mother, clings frailty to the sagging body of Christ with its overlong, wilting legs. I could write of the formal relationships - the rhythm between the legs of Christ and those of Mary -, indeed, of a whole manner of things, but none of them help to focus the profound effect of the work on me. It was only much later that I began to understand one part of the work's power for me.

I later saw the captives in Florence. They, too, had excited me in photograph, but I realised that they were very contrived. For their day they were most unusual, but I felt that the polished forms did not properly emerge from the rough blocks. They seemed, visually, to be almost stuck on. They did, however, help me to realise what constitutes part of the power of the Rondanini Pieta.

The folds of the cloth and beard in Moses are signs to me that Michelangelo was captivated by the sensual possibilities of the marble itself. The sculpture certainly had little to do with the story of Moses. The captives were an extension of this passionate interest. They constitute an extraordinary step outside the bounds of the sculptural language of his day. They are an extension of something I mentioned in the first chapter, the realisation of form through the development from the rough to the smooth stone. It is almost as if Michelangelo's sculptural quest became untenable for him and in the Rondanini Pieta we have the final exemplar. I can think of few works so imbued with humanity. Michelangelo's failure has taken on universal dimensions. His sense of failing as a sculptor has found the perfect equation in the failure of mankind symbolised in the crucifixion of Christ. His personal failings are encoded in an image which truly symbolises human failing. It is probably an accidental association which Michelangelo may have changed had he finished the work, but in breaking that original arm away from the figure of Christ he made something which is profoundly tragic.

More than this I cannot say. My words have not described my experience of the sculpture, but they perhaps go some way towards defining the sort of thinking the experience later aroused in me.

I cannot leave Michelangelo without mentioning the Pieta in the Cathedral Museum in Florence. Although this work, too, is unfinished, it has a much greater formal coherence and wholeness than the Rondanini Pieta. I mention this in order to emphasise the fragmentary nature of the other, and to suggest that, what I have referred to as a holistic image, should be understood to require an evaluation not based on a formal sense of wholeness, but, rather, on a sense of spiritual wholeness. But this sculpture has

both. Unfinished, though it is, it is surely the pinnacle, not only of Michelangelo's oeuvre, but also of Renaissance sculpture as a whole.

The work employs a number of formal conventions. Of particular note is the hierarchical triangular superstructure, gashed by the distorted leg of Christ. The figures are distorted in their internal proportions and in their size relationships to each other. (Christ straightened out would be incredibly tall). One could analyse such 'tricks' for hours, as I did, myself, in Florence. Suffice to say that each formal element is essential to the total image.

One may read the work in a narrative sense. The central figure is obviously dead and is being held so, so, tenderly by the grieving man and woman behind him, who may well be his parents. The second, diminished, childlike, female figure seems to be taking little active event in carrying the dead figure, but is rather turning away in sorrow. We will probably be familiar with the specific story which the work narrates and will almost certainly react to the symbolism of the work. [137]

The work certainly has a tremendous emotional impact. I can think of few sculptures which embody a sense of tragedy and despair in the way that the Christ figure does, in this work. These feelings are heightened by the contrasting tenderness of certain passages of the work, in particular, the tender clutching hand of the mother on the one side and the father on the other. The whole hunched form of the father figure seems to be determined not by the great physical effort in which he must be involved, but rather by a feeling of tender embracing.

I could go on for a long time discussing the work in this way, but I do not think it will help us to understand, at all, its power and emotion. It is simply one of those extraordinary objects which is beyond words and beyond explanations. It is profoundly moving and its secrets will never be unlocked. It must remain in the visual world from which it derives and we must be content to marvel at it, and be moved by it, without anything so banal as 'understanding' it.

Chapter 6 Toothpaste and the Museum

"As part of the business of everything being made a commodity, the shop window has taken the place of the altar-piece and the painting. Tens of thousands look into these windows and wonder. Here are the modern still-lives and the modern heroes and heroines. The function of the shop-window tableau is really the same as that of sculpture for the Greeks, or frescoes for the Italians of the Renaissance. These works appealed because they embodied the hopes, the ideals, the potentiality of most of the people who looked at them. Today there is only one common ideal, created and fostered by commerce: it is the principle that Only what you haven't got is worth having. *The shop window is the living expression of this ideal."* [138]

I have just paid a visit to our bathroom and have brought with me some randomly chosen bottles, tubes and cans of the stuff which we feel it necessary to adorn ourselves with, presumably in order to enrich our lives. There is a can of "8 x 4 INTENSIVE FOR MEN MARKANT DEODORANT" with "NEUE WIRKFORMEL", a bottle of "SANARA *Liquid Hair* Neu", a plastic bottle of "NEW Safeguard Antibacterial Shower Gel" and a tube of "NEW NATURAL PH-BALANCE blend-a-med". What these four products have in common is the word, "new".

In our modern society we are bombarded by the media with advertisements for such products. The packaging of the products frequently incorporates this word, "new" Advertisements in 'new-spapers', magazines, on the radio and television constantly bring to our attention some new product, or indeed an old product in new clothes, and try to convince us that purchasing these is essential for our well-being. Recent Blend-a-med advertisements on Hungarian Television have shown a medical man, who is probably an actor, in a laboratory or surgery setting. We are asked to believe that this man must know what a good toothpaste is as he is either a dentist and thus responsible for our toothcare, or a research scientist who has just done extensive research, either testing, or creating this wonderful product.

Of course we may choose to avoid such blah blah by not reading newspapers, magazines or watching television. However, the bombardment does not stop there. As we walk through the shopping streets of our cities the bombardment begins again, whilst the suburbs are full of super-human size advertisement hoardings. We may even believe that we do not look at these, they have become so much a part of our town environment. Even in this case we are, subliminally, unable to avoid them. Their message is primitive. One will have no aesthetic experience in front of them as one may with a painting. Maximally, they may make you chuckle, or I suppose one may actually long for the sunny or wild climates which the products are often set in, depending on their type.

Advertising knows no bounds in its attempt to sell. There is an advertisement on MTV at this time for "City Man" deodorants and aftershaves in which a beautiful woman smells the man who is apparently wearing the stuff and proceeds to make love with him on the floor in the background, whilst the product is presented in all its glory in the foreground. The message is, 'Use city man and you can get your rocks off with nice girls'. The trouble is that it works and we buy the stuff and perhaps, even more stupidly, are not disappointed with it if we do not get the girl.

Peter Fuller showed through a study of Ruskin, in his book Theoria, [139]how the advance of monopoly capitalism in the 19th Century destroyed moral value through its undermining of religion, a theme dealt with much earlier by Wheeler in part two of Man, Nature & Art. [140] I am sure that I am not the first to point out that the moral code

which previously ordered the functioning of our society, has been replaced by the media and advertising.

The reason for this is probably twofold. Firstly the 'media' is non-participatory and non-community based. Television soap operas show us how we might be socially interacting were we not sat alone in front of this box. (I say, 'alone' for watching television is a totally un-communal activity, even though a number of people may watch the same box at the same time.) It was, I understand, quite normal in my village, in the days before the advent of television, to meet together in the village hall of an evening for a chat. The first television in the village was later installed in the hall and everyone collected together of an evening to watch together. Nowadays, everyone watches at home and in many houses there are televisions in each room, so that everyone may watch a different programme at the same time. If one tries to escape to the pub one is greeted with television there too. The television is causal of the break up off community life.

One of the attractions and dangers of television is that it requires no creative participatory thought. Everything is presented in easy to understand blocks of information and is presented as being real. In a theatre one knows that the actors are playing out roles and one is required to suspend belief of this knowledge and enter into the fantasy world of theatre. Television does not do this. The actors are working in 'real' settings. One does not have to imagine a street, or a room, or a swimming pool. The actors are filmed in real locations and appear to be in part of that same real world in which we are sitting. This is television's power and its weakness. It turns everything it touches into consumable trivia, easy to digest, and if you are having problems one of the advertisements will no doubt tell you which remedy to take for them. There is no such thing as critical viewing. This is also a myth created by television companies who are perhaps a little self-conscious of the damage that they are doing. Television replaces the morality and order of community life with sentimental emotion aroused in response to its villains and heroes. One may not even have a real meaningful emotional response to television. It invites only sentimentality.

The media have also undermined moral and community values by making us feel permanently inadequate. The strategy of advertising is remarkably simple. You are useless and under-fulfilled because you have not bought this or that product. One is constantly under pressure to look new - buy new clothes, have a new hair style, a complete re-image job - and to acquire; to buy all those useless gadgets that one is pressured to believe are essential for life. 'How could your car ever move using that old cheap oil - buy new brill oil and life will never be the same again', until of course new brill oil becomes old and there is an even newer, 'better', product. It is this concept of newness which has perhaps done more than anything to destroy morality in the years since the Second World War.

Newness has become the goal of life in itself. By looking new we will feel happy, so we are told. By buying new gadgets our life will be made easier, we are told, (which should give us more time to watch more blah blah on television). "Don't think, just do it", as one of my sisters says, having been on one of those brain-washing American personal development courses. Success in life is measured by how much buying power one has accrued, how big a house one has and how big, and how new, a car. Oh!, and don't forget to brush your teeth with your new, better, improved, longer lasting, double protection toothpaste.

So much for the toothpaste. Now for the Museum. I have suggested that this media hype has undermined the moral fabric of society. One of the results of this would seem to be the arrival of the age of nostalgia. From our standpoint of today, lacking any sense of

communal values, we have begun to view the past with a great sense of nostalgia for the ostensible order that its society had, and this has given rise to the age of the museum.

We now have museums for everything. Museums are no longer just the collections of art and artefacts from various world cultures, which they once were. We now have transport museums, science museums, industrial museums, folk-art museums, museums of rural life, textile, glass and ceramics museums, museums of musical instruments, museums devoted to pop stars, philatelic museums, pipe museums, tobacco museums, toy museums, space museums and yes even soap and toothpaste museums. There is almost nothing that man has produced, particularly in this century, which is not collected in some museum somewhere. What are we exactly collecting all this stuff for, or rather why? Surely these products are not so important that they all need conserving for future prosperity.

The answer would seem to lie in a sense of utter collective insecurity. Until the decline of the power of the church as an active spiritual force in our lives, life must have had a much greater sense of order to it. Society, even in big cities, was community based, being based around a parish. The church provided moral guidance and a sense of order, a sense of belonging to something larger than the individual - belonging to a parish, a community, a country and ultimately, the universe. The church, and its guidance, provided a reassuring central role in solving the problems of everyday life. It provided a focus and order in a confusing world.

What I have just written may seem a romantic over-simplification and indeed it may be. Life in the big cities two hundred or more years ago was probably just as squalid, perhaps even more so than it may be today. Crime, poverty, disease and tragedy were rife, just as today, indeed, maybe more so. Yet the church was a real force, there if one chose to belong, as it seemed most people did (often by force, rather than desire). Those difficult questions of where we come from, what are we doing here, and where we are going were answered by belief. The tragedy of death was surrounded by ritual, as were the joys of birth. Life may have been hard, but it had a sense of order and purpose, which generally seems lacking in society today. We are all running very fast but probably have little idea of where we are heading. Television helps null our senses and real-life experience, thus decreasing the danger of us 'stopping doing it and thinking.' As Wheeler puts it;

"We are most aware of this togetherness of things, of a mutual immanence, when we are living within the framework of an organic community. Today the community is dead; replaced by vast metropolitan agglomerations which are destroying the country and enervating the souls of the people who live in them. We have become infected with a megalomania which atrophies the small resources of the individual, so that more and more he is forced back into himself, and declines into neurosis, perversion, bitterness and frustration which can only be expended eventually in the vast wars civilization prepares for itself. The community is dead, and we must lose no time in recognising that man is in greater danger from the environment of his own creation, than ever Neolithic man was from his natural one. Our most urgent task is to bring back into modern life the values and awareness which were indigenous to the organic communities of the past but which are absent in the new world environment of the machine." [141]

It is this absence of 'values and awareness' which have made us museum mad. Lacking a sense of values on which to base our judgements we are obsessed with preserving everything, for this is our only means to relate ourselves to the course of history. We find solace in visiting a museum of rural life in which we may see the buildings, instruments,

tools and impedimenta of a life style that has passed forever. We see in it a kind of order and a simplicity and feel nostalgic for a life that was more fulfilled than our chaotic existence.

Of course the museum is a lie. The museum of rural life does not show the mud, the biting cold of winter, the deathly smell of the sick bed. It is a packaged lie, a half-truth, made comfortable so that we may indulge and enjoy our feelings of nostalgia. The museum has not been created to preserve these things for posterity, but to give us the chance to place ourselves into the mill of history, to consume this long-gone lifestyle and reflect nostalgically on its order and simplicity. We are given an anaesthetised experience which will help us for a short while in focusing our own confusion of absences.

Waldemar Januszcsak is not alone in suggesting that the art gallery or contemporary art museum may be seen as in some way taking over the role of the church.

"What you have to remember is that art today has become one of the performing arts. Art galleries are places where you go in search of a certain kind of kinky experience. Today's art gallery is a cross between a church and a disco. It is somewhere for people to go in search of frisson. To be moved. Shifted. Taken out of their usual context. It is where the jaded urban imagination goes for its after-hours fun. It encourages what Hans Sedlmayer called 'the creative act of viewing'. Unless you accept that art of the Jeff Koons kind is as much the product of the spectator's imagination as the artist's you will never understand most of what is being produced at the cow-catcher end of art today.

Koons and Co. are actually addressing a significant late 20th century problem with which you, as a follower of Morris, will already be familiar: How do you enfranchise the urban worker's after-hours imagination? What do you give that imagination to keep it healthy, wet-nosed and happy now that the worker no longer has control over his own produce and no longer has access to the fruits of his own labour? How can a modern city mind have an imaginative life without running off and becoming another wobbly Welsh potter?

It is important to accept that this modern city life, archetypically in New York, is all the things we fear - and will continue to be those things. Art must face up to the fact that its main task at the moment is actually a rather humble one - to supply the frustrated city dweller with morsels of spirituality." [142]

I have read elsewhere that in the last few years attendances of New York and London exhibitions have broken all records. Some shows have had audiences of over 1 million visitors, extraordinary by any accounts. It would indeed seem that there is a new audience in need of some kind of spiritual experience.

But there is a danger too in this. Because of toothpaste we have become a generation of the new. Newness is often seen as a mark of status - the fact that something is new is marketed as a guarantee of its value and quality. But this is only marketing and most of these products have no value at all, except monetary. Only this week there was an article in the newspaper about a leading toothpaste company having to change its saturation advertising strategy in Hungary as the Public Health Department had announced that the ingredient on which the company had been plugging its toothpaste is actually harmful to teeth and especially to children's teeth, to which the marketing campaign was specifically targeted. (Throw out the Blend-a-med!). So this concept of 'new' as a positive value judgement is a lie. It is a lie that science also sustains. New scientific theories are always seen as an advance. The fact that they may be retrogressive

to our understanding of the world, is inconceivable. I suspect that they are circular - that we, like time, go round in circles and that science goes round in circles, just as concerns in art certainly do.

Newness has had a profound affect in the art world and powerful art dealers have seized the chance to make money out of every new fad which they have chosen to promote. Art movements have replaced each other at an extraordinary rate in this century, and particularly since the 60's. Here too newness has often been mistaken as a stamp of quality - the fact that an artist who is doing something that has never been done before is enough to gain his work maximum media and art world coverage and high prices in the galleries. The work may literally be rubbish, having monetary, but no aesthetic value. Videos and photos of people throwing twigs into water must belong to this category.

I have run the risk of labelling myself as an arch conservative. I have no wish to say that what is new is bad and what is old is good, but merely to point out that the fact of something being new (or indeed old) does not confer any value on it at all. I have written with admiration of Tony Cragg's sculpture, which is certainly 'new'. But it is not only new, but is, in its way, of an extremely high standard. Thankfully there is much new work which is thus. Sadly, although not surprisingly, there is much that has been promoted recently, which is not.

Similarly 'oldness' does not confer real value on an object, other than perhaps monetary value, and our museums have become store-rooms for much junk which has value only as cheap entertainment. Our obsession with the 'old' and the 'new' are merely symptomatic of our insecurity in a monopoly capitalist world whose values are entirely antagonistic to the idea of the community and a meaningful relationship to each other and to our environment. Moral and spiritual value have been replaced by monetary value. We perhaps visit museums, just as art galleries, in an attempt to placate our sense of the loss of order and loss of our sense of place in a meaningful society and in the world.

The loss of moral and spiritual value is, I think, synonymous with the decline of the church as a powerful force in our lives. It is, therefore, a loss of God. As a result our society has become obsessed with the material. I now wish to consider two types of materialism. The first is this obsession with material gain, to which I have alluded above. The second is an obsession with finding a materialist basis for the world, and for our experience of it. Science is no longer a study that is parallel to religious belief in our world view, but it now attempts to explain away religion and our need for it, by locating all experience in material substrates. We have seen that science is unable to distinguish the physiological difference between different emotions, but its ability to measure what happens physiologically when we experience emotion is an illustration of its obsession with the material.

Given this new, Godless, world view, we have, undoubtedly caused by feelings of incompleteness, established substitutes for religion. Symptomatic of this need is the almost idolic worship of certain pop stars by young people. A rather weak form of such a substitute might be party politics, for each political party tries to lay down a set of ideological premises with which to order society and our position in it. But whilst political parties may take a stance about religion and the spiritual, it is, unless the party is tied to a particular religion, normally a stance of tolerance, and even when the party is of an ostensibly religious nature, such as the Christian Democrats, then the Christianity part is a minor aspect beside the temporal power which the party advocates.

A more profound religious substitute is that of psychology. Psychology purports to explain the inexplicable parts of life - emotion, instinct, self awareness - those things

which science has difficulty in, ultimately, basing in the material. Interestingly enough, psychologists seem to regard their theories as being based in the material, too. But I think that psychological theory is characteristically speculative, for, although it is based on observation of behaviour, we shall never establish a series of chemical processes which explain our mental relationship with, say, our mother.

Jung's theory does not replace Freud's and the theory of, say, Melanie Klein replaces neither Freud, nor Jung. That is to say that developments in psychological theory are not in any way related to advances towards some kind of truth, but are merely other plausible theories to explain the workings of the non-rational mind. So psychological theory is divided into different schools of thought and thus require belief as a basis for school membership. They are in this sense exactly like religions, and the differing schools of psychology are like the different religious schools, say the difference between Catholic, Church of England, Methodist, etc., or, more radically, between Christianity and Buddhism. Ones subscription to a particular school of psychology, or to a particular religion, depends on belief.

Psychology tries to analyse those experiences which are not of the intellect, in an intellectual way. What this means is that, because of our knowledge of psychology, it is difficult to have a genuine experience of a non-intellectual kind, as this experience is tarnished by an intellectual attitude towards such experience. The tenets of science and psychology together, and our obsession with the intellectual, make such pure un-intellectual response more and more difficult, and what we consider to be a pure un-intellectual response is, often, only a bastardised form of it.

This is why the visual arts and music are so important. They are, despite the intellectual attempts to destroy them in the modern period, the last bastions of pure gratifying response, which is not tainted by the intellect. They alone have the ability to encode that which allows that experience of 'being at one' with the world, through the empathetic visual, or aural, response, which is essential to healthy existence. Those practising within these arts must not be allowed to forget this heavy burden.

When the tenets of psychology are applied to the analysis of the visual arts we get into problems. Psychology may suggest interesting ways to approach the intellectual evaluation of a sculpture, but the real problems arise if we see the sculpture as encoding actual psychological states which govern our reaction to them. I should like to explain this by reference to Peter Fuller's essay on the Venus de Milo. [143] There are aspects of this essay which are quite breathtaking and, in particular, this may be said of the research that has gone into his version of the discovery of the work and its bringing to Paris, the subsequent reactions to it, and the many attempts to suggest how it may, in its original state, have looked. It is the conclusions which Fuller makes about the work, which I find to be, frankly, silly.

Now it would take too much space to go through all the arguments that Fuller puts forward in his essay, so I must, here, just summarise some of the pertinent points. Basically he discusses the difference between the whole figure as it once was, and the fragment that it now is. He discusses the 'timelessness' of the work. Finally, with the help of Kleinian psychology, he suggests what the work means. These three aspects of his essay, I should like to discuss now.

In the 19th Century numerous attempts were made to 'complete' the statue, through description, drawings and models of how the work may once have looked. Fuller goes into considerable detail of these restorations. He claims that;

"Almost certainly a characteristic of the original statue was its sense of wholeness; the dominating feature of the surviving part is that of fragmentation." [144]

He suggests that a significant shift in attitude occurred between the Greek period, the finding of the work, and the modern period;

"They, as it were saw themselves in the broken Venus, but as the century progressed, so did the tendency to relate to her as if she were an intact, ideal, and unsurpassable whole." [145]

So Fuller is arguing that the loss of the original arms, and, perhaps, other elements, has meant that we are not now able to view the work from its original narrative point of view, as the elements in the work which were narrative have simply disappeared. He suggests that it has, as a result, become less timebound and it is, as it is now, able to carry a great many different meanings. He introduces Kleinian psychology, whose footstone is the idea of the external object and its relation to the internal object. He argues that the sculpture, in its damaged state, requires that we complete it internally. He claims that the ultimate meaning of the work is that as a representation of the Mother. I have problems with all aspects of his thesis.

Fuller suggests that the loss of the narrative specifics of the work have lead us to read the work in a different way from the Greeks. The Greeks loathed incompleteness and fragmentation. We have learnt to view the work, as it is now, as constituting a whole. Up to this point I agree. He goes on to argue that we now see only a reduced form, but that we can, today, respond to this in a different way;

"Earlier I described how the disappearance of the arms further released the torso from that specific signifying system within which it was originally produced; but now we are also in a position to explain the apparent aesthetic superiority of the present mutilated version over its original,.....It seems to me that the totality of injuries which the statue suffered amounted to a relatively drastic change within the signifier itself: the statue now becomes not only the representation of a woman, or an 'idealised' woman, i.e. a goddess of carnal love, but also a vivid externalisation of one of the commonest 'internal objects:' [146]

Now this 'internal object' is none other than the 'internal mother'. I cannot see how Fuller can claim that the figure is both a representation of the 'goddess of carnal love' and the 'eternal mother' at the same time, for the two things essentially negate each other, unless he wishes us to believe in some kind of unhealthy sexual attitude towards our mothers. I think the problem in the meaning of the sculpture goes even deeper than this. Fuller also describes the sculpture thus;

"The sculptor of the Venus rendered an expressive representation of the body of a beautiful, mature, maternal woman - about 30 years old - through the way in which he worked his marble." [147]

I simply disagree with Fuller,s reading of the work. I am sure that his intellectual programme has prevented him from, quite literally, seeing what is before him. I can see nothing in the work vaguely suggestive of motherhood and I would suggest the model's age to be rather younger. Where Fuller sees 'mother' I only see a sexually attractive young girl.

Another of Fuller's problems with the meaning, and I am surprised that he did not pick up on it himself, is with the title of the work. 'Venus' is a Nineteenth Century title, given to the work when it was rediscovered. There is nothing in the work itself which denotes it as such, it may well rather represent a young girl which the sculptor

particularly admired. Fuller has been carried away in his supposed reading of the work by an irrelevant title and his obsession with psychoanalysis, neither of which helps us to understand the work and rather blinds us, certainly so in Fuller's case, to what is extant in the sculpture.

What is significant about the loss of the arms is that it illustrates a shift in thinking. In the Greek period, and in the Renaissance too, for that matter, the sculpture, as it is now, would have had little value because of its incompleteness. For the prevalent sculptural language of those periods was one which was essentially narrative, and the Venus, as she is now, has no narrative content. What we have learnt is to see sculpture much more as an object in the sense described by William Tucker in his, 'The Language of Sculpture'. [148] That is to say that we can react to this torso as an aesthetic holistic form rather than to some literary notion. Sculpture today has become less concerned with literary meaning and is more concentrated in the visual. In other words, today a sculpture would not depict a god or goddess, as in the Greek or Renaissance periods, but actually embody 'god-ness' and act as a substitute for it.

Fuller goes much further in his psychoanalytical reading of the Venus;

"*It might be said that the Venus, in its mutilated state, evokes in its receptive viewers the affects attaching to their most primitive phantasies about savaging the mother's body,* and *the consequent reparative process; whereas the Slave* ‡‡ *merely titillates by evoking (within a format of cultural rationalisations) those perverse sexual images which are themselves characteristic defences* against *working through that which gives rise to them.*" [149]

Perhaps the problem is that I am simply not a receptive viewer, and I hope never to be so if it involves me in such spurious evaluations. Fuller even claims that the fight which was supposed to have taken place to capture the Venus has psychological overtones;

"*And now, I hope, you will be able to see why I dwelt so long and in such detail on two components in the early history of the resurrected Venus: the fight on the beach, and the reparation or reconstruction of the figure. The fight (or the rumoured fight for if it was only imagined, or greatly exaggerated, then my point would be strengthened rather than weakened) came to symbolise the phantasy of attack on the mother's body, or rather on the internal representation of that body. The Venus was dragged from the earth, a 'timeless' goddess, like some imago salvaged from the unconscious: she was, it seems, subjected to gross ill-treatment, and mishandling, perhaps to actual mutilation. But she survived. And behind all those attempts to lie about what had happened, to cover it up, perhaps even to elaborate it, behind all those rumours about which bits had been broken off by whom, lay those powerful unconscious phantasies concerning the mother's body so vividly described by the Kleinian analysts.*" [150]

I think you will now see why I advocate a direct, visual, non-verbal, response to sculpture. Had Fuller known nothing of the finding of, and subsequent history of, the Venus, and had he not known through its, relatively, recently applied title that it is a Venus, he would have, I suspect, never dreamt of this fantastic, (or phantastic) construction of meaning. Wonderful reading though his essay may be, not one word of his analysis of the sculpture's meaning has foundation in the sculpture itself.

I have come a long way from the toothpaste in a short space of time, but I hope I have illustrated why the direct visual response to art is so important, not only as an

‡‡ 'The Greek Slave' by Hiram Powers.

alternative to intellectual readings of art, but as a means of restoring real value into a valueless society.

Chapter 7 True Brit

"As scientific understanding has grown, so our world has become dehumanized. Man feels himself isolated in the cosmos, because he is no longer involved in nature and has lost his emotional "unconscious identity" with natural phenomena. These have slowly lost their symbolic implications. Thunder is no longer the voice of an angry god, nor is lightning his avenging missile. No river contains a spirit, no tree is the life principle of a man, no snake the embodiment of wisdom, no mountain cave the home of a great demon. No voices now speak to man from stones, plants, and animals, nor does he speak to them believing they can hear. His contact with nature has gone, and with it has gone the profound emotional energy that this symbolic connection supplied." [151]

I re-read all this material yesterday and found that something was missing. Before I went to sleep I was worrying the problem over in my mind and in the night I dreamt about the Queen of England who was paying a visit and was rather ill. She asked for my arm on several occasions to help her up and down steps and after I escorted her down to her quarters in the basement I found many drops of thick pink blood on the stairs.

When I awoke I realised what was missing. For a language of sculpture to have any real meaning it must be related to the world outside of itself. The sculptor must have a dynamic relationship to the world and it is this which feeds him and his work. We must look again at the idea of environment which, I have so far argued, affects the way that a sculpture is seen, affects the way in which we learn to use our biological systems, and possibly has a genetic effect, too.

I have, for the last eleven years, been living in central Europe. I am frequently asked why I left England and came here, and also what the difference is between England and Hungary, where I now live. I tend to give some pat answers to these questions, but there is a part of the reason which I have rarely spoken of, and it has a bearing on my present subject.

Leaving England brought into sharp focus what England means for me. I do not mean this in a nostalgic way - I do not miss England - but there are certain aspects of my Englishness which are still a dynamic force in my world view.

From the moment when we are born we enter into a dynamic relationship with our environment - that is to say, that it is a relationship of give and take. We learn mostly from our parents and immediate family at first, and then from our play-mates. When we begin to enter establishments of education, either at kindergarten level, or in infants school, we start to learn of our context in a town, region, country, world and, ultimately, the universe. We are instilled with a sense of place through an understanding of history, geography and the natural sciences, and we are also instilled with values.

The values which I was taught in England were, basically, those of the Anglican Church and those of the English Nation. We were taught that the British Empire was something great, that it had put the 'great' in Great Britain, and that killing a few natives here or there was not essentially wrong, even if a bit unfortunate, for through such slaughter we had become powerful and ruled the world. Even whilst I was learning such stuff I had my doubts, for my sense ~~of the moral was obviously much~~ stronger. I could only see the idea of the British Empire and, indeed, the nation, to be based in the idea of gain - both ~~in a financial sense and in the sense of gaining power.~~ The ~~Empire's~~ 'divide and rule' policy, which favoured a minority religious group in the occupied country, ~~in order to create instability and thereby make the country easier to rule, has~~ created the problems which we now have in Ireland today and those which caused havoc

in India earlier in the century and which still have their repercussions today. This is to say nothing of the wars of the Crusades, fought in God's name against the 'Infidels'.

So I am unable to be proud to be British. Here I should say, English, for Wales and Scotland are occupied countries, as well as Ireland. However embarrassed I may be by what my countrymen have done in the world in the past, I am not, however, able to disown my Englishness, and have no desire to do so.

One's sense of one's own country is refined in a long absence from it, and through comparison to that new country in which one lives. So whilst there is much that I dislike about England for its political historical - and here I might add that the nihilistic, divisive, heavy hand of Thatcher's rule were amongst the reasons that I left - there is much of England that is so much 'in my blood' (although not my genes, it would appear), that it forms a major part of my world view.

Margaret Thatcher used all the means of power at her disposal to consolidate her power. When there was opposition she swept it away, quite literally, by force, as in the case of the miner's strike, or by subterfuge. When faced with the difficult situation where all five Metropolitan Councils were in the hands of the socialists she simply abolished the councils. Her system of rate-capping was devised to divide local councils. Each council was given a fixed budget from central government funds with which it had to work in addition to any own income that it had. Those councils who cut services and saved money then got extra money, whilst those who improved services subsequently got less money. In other words, Thatcher devised a system whereby all Conservative councils who behaved in line with central government thinking, received extra money, and all those Socialist councils, who did not, were left virtually bankrupt. The arguments that Thatcher regularly used in the media to back up her policies were the same - sometimes even word for word - as those put forward by the 19th Century factory owners to the government inspectors in defence of the appalling working conditions which they subjected their workers to - adults and children alike. Margaret Thatcher epitomised, for me, much that is evil in humanity. Her world was megalomaniac and it left no room for people in a community sense. She made belief in the future difficult, and 'hope', impossible. For an artist, her kind of world is untenable.

I have dwelt, perhaps rather too long, on the things which I have learnt to evaluate as wrong in the immediate environment of my birthland. These too are important, for what we perceive as wrong defines, in opposition, that which we see as right.

Interestingly, almost all those things of value, which, for me, make up that concept of Englishness to which I subscribe, are cultural, in one sense or the other. My culture is that of Chaucer, Shakespeare, Fielding and Dickens, of Purcell and of English folk song, of Constable and Turner, and of Ben Nicholson and Henry Moore. I have directly chosen a few names out of the many, who would seem to have a distinct Englishness about them. But these are examples of what may be seen to be English Culture and what I should like to look at is 'Englishness' itself.

I have already mentioned Hoskin's 'The Making of the English Landscape'.[152] When I first came across this book many years ago it taught me that the remains of our history are visible to an extraordinary extent in our English landscape and it helped to focus my attention on the landscape itself as a kind of cultural artefact. What England has given to me more than anything is a love - no, it is more than love - of the sea and the land itself, although I should say that my Englishness must be extended here to include the mountains of North Wales and the Scottish Hebrides, where I fulfilled so much time. This is a landscape primarily of the visual, but also of interest as a document of man's interaction with the landscape over thousands of years. One does not have to travel more than a few miles out of suburban sprawl before one sees a stone circle, standing

stone, or some mediaeval field patterns. The road one is travelling on may well be Roman, and the 'nature' one sees, except in one or two very remote places in the British isles, man-made.

Here, in Hungary, light and colour are different from that which we find in England. There, are those wonderfully dramatic grey skies, the wind, those deep, deep greens, which Constable saw so well. There is the smell of sea brine, the cry of the seagull and the violent sea-storms. Here there is a burning sunlight that washes out colour and softens forms and edges. In England objects seem dark and heavy, in Hungary light and dissolved. Here I prefer to rise at dawn and work in daylight. In England I enjoyed the electric light of late night working.

As well as the landscape and the sea I own those actual artefacts of man - the stone circles and burial chambers, the figures and mazes cut into the turf of the chalk hills, the Roman towns of Chester and Bath, the great Romanesque and Gothic cathedrals and the village churches from all ages, to name but a few of my possessions. They are all signs of man trying to create a meaningful and dynamic relationship with his environment.

That I miss certain football grounds and pubs is in a sense nostalgic, but I suspect that what I really miss in them is the community that went with them. I certainly miss the British Museum, that store-house of plundered treasure from around the world. It, perhaps more than anything, gave me a sense of the relationship of the cultural artefacts of my own environment, to that of the larger world. I hope that I have brought with me my English sense of humour.

So what does Hungary mean to me. How do I react to my new environment. I must say that I never realised quite how English I am until I came to live here. It is much more than a question of learning a new language. Customs are different, but once accepted can be enjoyed, firstly for their novelty, and later, because the customs are related to time - that is to say that they occur annually at the same time each year - they give a sense of belonging to a community and order. This is particularly evident in the customs of the village community in which I live.

Then there is the question of historical and cultural background. I can learn about Hungarian history, but I can never feel it. I have no emotional reaction to it, and if I do it must be of a sentimental nature. It is not my history. The same is true of the culture. At a simple level I was brought up on different nursery rhymes and children's songs and I am horrified at the racism in a song that my daughter sings in which a Turkish child cuts the leg of a stork, which is healed, in the next line of the song, by a Hungarian child. The origin obviously goes back to the Turkish occupation of Hungary, but even so. It certainly does not seem the sort of song which will help international peace and understanding. Of course English children have similar songs, and worse too. This is an example of how we subtly learn the values of our nation.

On a higher level I can enjoy the cultural artefacts of Hungary, in the same way as I can enjoy those of the Japanese or Yoruba. There are, inevitably, things which may be encoded in them that are to do with their specific time and place, which I shall probably miss, not having grown up with their presence. I cannot feel them to be mine in quite the same way, except for those which move me profoundly. As my experience of these is at a purely visual and sensual level, my profound experience of them is personal and I can possess them.

Until recently I have been unable to enjoy the landscape in the same way. It is fine and I can enjoy seeing it, but it is only now that I can say that I can possess it, but only one small part of it. Let me explain. My wife and I recently bought a run-down vineyard on the hill above our village. It has a small house on it and the sloping grounds look

across the valley to the Black Hill, which looms above it. On this piece of land I have those deep feelings of belonging which I also experience so often in Britain. This has nothing to do with ownership - I had the feeling the first time I was there, before we bought it, and indeed that it why we acquired it. But with this one small exception, this landscape is not mine.

Recently, I was asked about these matters by a journalist who was writing something about me for some magazine or other. He asked that, if the landscape of the Welsh mountains, where my mother lives, is so personal and important to me then why do I choose to live here, where I do not have such a dynamic relationship to the landscape. My answer was rather simple. I said that I would be unable to work in Wales. It is so overwhelming that I would merely walk and look and enjoy the environment. To make sculpture I need a more neutral environment, which is not so distracting, whether that is in Kings Cross, London, where I had my last studio, or Palkonya, the Hungarian village in which I have my current studio.

In fact for the artist it is the studio which is the first environment. In some ways it works in a self contained way. The artists must go out of it at times to bring new experience into it, to freshen it up, to develop it, and it is on this that the relationship between the sculptor and the world, and implied in this, the sculpture and the world outside of it feeds. I do not need to be in Wales, or in England, for Wales and England to constitute a very real part of my world view. Similarly I do not need to see a particular sculpture in the British Museum which moved me, to remember my experience of it. Popper's World 3 is there if I need to take from it. What I do need, though, is a sense of belonging in a dynamic community which is, I suspect, what Palkonya means to me.

I hope that the reason for this rather personal aside will become apparent when I look at the subject of self-expression shortly.

Part 4 Towards a Conclusion

Chapter 1 Introduction

I have wandered far from my original analysis of the physical aspects of the language of sculpture. I have tried to show that the way in which we are able to respond to, and evaluate, sculpture is dependant on our biological conditioning and our individual and collective world view, based, as it is in accrued experience of the world and learnt knowledge. I have also tried to focus attention on the problems that my profession faces in contemporary society and how, despite its beleaguered position, it is, perhaps, of more importance than at any other time in man's history, as a potential healer of society's self-inflicted wounds. It remains to weave together the many threads that I have taken up and to offer a notion of sculpture's role in the future.

I shall begin by returning to the three Worlds of Karl Popper. To recap, Popper has split the various capacities of human experience into three categories, or Worlds as he calls them. World One is the world of physical objects and states and he sub-divides this into three categories - firstly the inorganic part of the physical world which includes the matter and energy of the cosmos, secondly the biological which includes the physical structure of human beings and its action, and thirdly the material substrates of creativity; of tools; of machines; of books; of works of art and of music. World Two is the world of conscious states which includes our subjective knowledge and our experience of perception; thinking; emotions; dispositional intentions; memories; dreams and creative imagination. The Third World is that of knowledge in its objective state and here he lists our philosophical, theological, scientific, historical, literary, artistic and technological knowledge. He also puts in the Third World our theoretical systems - those of scientific problems and critical arguments. [153]

I have so far spoken of how the structure of the brain and eye determine in themselves the way in which we see, and in our case see sculpture. These systems may be regarded as part of the material substrates of works of art. They, and our resultant empathetic capacity belong to World One, although in practice our empathetic capacity is often tempered with our subjective knowledge and our experience of perception of World Two - the experience gained by practising our use of these systems. Our later analysis of what we have seen aspires to the objectivity of World Three, but is inevitably tempered by our subjectivity of World Two.

I have attempted to make a clear distinction here between that which is physically given, i.e. the substrates of World One and that which is learnt, which belongs to Worlds Two and Three. At the moment of birth the 'equipment' of World One is present, whilst the knowledge of World Three is totally absent. The subjective experiences of World Two have previously begun, albeit at a minimal level, and begin proper from the moment of birth. (The studies of psychologists in particular suggest that we have memories of our time in the mother's womb, even though these are at a subliminal level). Thus the material substrates of works of art and human creativity are given at birth. The practised use of these substrates creates memories of previous usage and thus we can develop our creative imagination, train the finesses of the functioning of these systems. We can thus enrich subjectively our creative imagination.

World Three presents a different case and we must understand this objective knowledge to be of the kind that is not acquired through direct experience, but from

books, etc. Thus our knowledge of art history essentially belongs to World Three, whilst art appreciation is of Worlds One and Two.

The brain must be understood to be an organ and part of our central nervous system, in the same way as our eye is part of our optic system. It is a physical given. The concept of 'mind' must be understood to be the things which we do with this given equipment. The brain belongs to Popper's World 1. What we do with would seem to be of World 2. World 2 is the world of the mind.

This would be a convenient distinction to understand the difference between brain and mind, but it is, I fear, not so simple a matter. Popper puts not only the structure of living beings in World 1, but also their actions. Here lies the difficulty. Thought, emotion, memory are essentially actions of the brain structure and should then belong to World 1. But there is a difference, minute though it may be.

When we see a sculpture we, firstly, use those faculties which are situated in the right side of our brain. These faculties are a function of the system itself. Fear is not a conscious act, but what we call instinctive. It is a function of our biological system and belongs to World 1. So too with the sculpture. Our appreciation of it as a holistic gestalt is of World 1. It is only when our perception and emotion become conscious, that they enter World 2. What I have chosen to call our 'empathetic capacity' is a function of our biological system and it belongs to World 1. The sculptor working in his studio is largely operating within World 1. When self-consciousness interferes with the flow of the work, this is World 2 experience. Our ability to have aesthetic experiences is solely of World 1. As Baumgartner put it,

"The functional organization of the visual system leads to a representation of the surround in a dynamic pattern of neuronal activity. It constructs for us a reality which fits our interactions with the physical world. What we prefer as beautiful or pleasing may be a visual input which corresponds optimally to the processing rules of the system. The rules are given. However, within the wealth of visual experiences due to learning within a frame of conventions, the preference of acceptance can be changed." [154]

I should now like to make a distinction between the Worlds of the sculptural language. As Popper did in classifying all human experience I choose three worlds, but these should in no way be seen as alternatives to Popper. They should be regarded as an appendage to Popper and of value only in regard to the language of sculpture, whose workings they will, I hope, help to clarify.

World A is a physical world determined by our biological systems and their functions. The capacities of our right brain - in particular our ability to recognise gestalt images - are founded here. What I have chosen to call our empathetic capacity is also founded here. The capacities of World A are genetically, biologically, given. Here one must also classify all those functions of our mind which are not tempered by learning. These must include some of our instinctive behaviour and some of our emotional response.

World B is a world of two parts. Part 1 is also a physical world, but one which is tempered by learning. As children we do not see in three dimensions. We do not walk, and have little control of our movements and our bodily functions are rather uncoordinated. We must learn to move in space in the world. Coupled with this learning is an ever increasing self-awareness of our own body as a physical entity in the world. As we learn to walk and move physically in the environment we also learn those notions of size and scale which I discussed in the first chapter. Much of our understanding of sculpture is the intuitive empathy between the sculpture and our self-awareness of our

own physical existence. We must add here those parts of our instinctive behaviour and emotional response which are tempered by learnt experience. Part 2 of World B is the world of dreaming and our subconscious. In other words World B contains those faculties over which our mind does not exercise rational control.

World C is the world of the mind that is intellect. It is the conscious part of us. It contains such capacities as rational thinking, self-analysis. The actual patterns of our logical thinking almost certainly reflect the biological patterns with which our brain system works but these must have language in order to allow thinking and logical reasoning. We can only think and reason in language. Worlds A and B are non-verbal and visual. World C is the world of language and linguistically based mind functions.

What I wish to distinguish in this classification is the difference between the rational functions of our brain, which rely on language, those functions which are without language, but which are developed through experience and those functions which are completely determined in the patterns of the biological system itself, which are genetically given and untainted by learning and language. On this basis our appreciation of sculpture is at three levels - 1) the primal biological reaction in which our systems recognise those forms and patterns which are inherent in their own mode of functioning, 2) a non-linguistic reaction based in a subliminal comparison to our own physical experience of being in the world. 3) rational, logical evaluation of the seen sculpture.

I wonder if it is not the thalamus which 'decides' which kind of response to invoke as it switches the in-coming visual information to the various area of the brain.

I have argued that we are able to evaluate sculpture in the three ways mentioned above. I have tried to show through the workings of eye and brain how the first kind of evaluation is possible. The third, rational kind of evaluation I have tried to illustrate in the chapters on 'The Sculptor's Practice', 'Looking at Sculpture' and, particularly, through a look at the work of Tony Cragg. I have yet to deal with the complicated way in which a sculpture may encode information which allows us to make subliminal comparisons with our experience of being in the world.

Chapter 2 Reading the Image

"Allas! and konne ye been agast of swevenys?
Nothyng, God woot, but vanitee in sweven is.
Swevenes engendren of replecciouns,
And ofte of fume and complecciouns,
When humours been to habundant in a wight.
Certes this dreem, which ye han met to-nyght,
Cometh of the greete superfluytee
Of youre rede colera, pardee,
Which causeth folk to dreden in hir dremes
Of arwes, and of fyr with rede lemes,
Of rede beestes, that they wol hem byte,
Of contek, and of whelpes, grete and lyte;
Right as the humour of malencolie
Causeth ful many a man in sleep to crie
For feere of blake beres, or boles blake,
Or elles blake develes wol him take.
Of othere humours koude I telle also
That werken many a man in sleep ful wo;
But I wol passe as lightly as I kan." [155]

The astute reader will no doubt have noticed that I have argued for two basic reactions to sculpture, one which is conscious and one which is subconscious. I have made an equation of these two basic reactions with the two different hemispheres of the human brain.

The intellectual, conscious evaluation, whose origin is in the left side of the brain is fairly straightforward. If we make a linguistic description of the sculpture in question - if we analyse its parts and relationships consciously - that is to say, if we look at how the sculpture is configured to convey meaning, then we are using our intellectual responses. If we 'read' the sculpture in a literary way - as a sculpture illustrating some event - this too is at an intellectual level. We may also react to the sculpture by comparing it to other works of the same artists, or place it into the context of works by other sculptors. Now all this activity is on an intellectual level whose responses are based in verbal language. It is when we come to the second kind of response - the subconscious reaction - that matters become decidedly more complicated. It is on this that I should now like to concentrate.

The subconscious reaction is based in our physical response, which I mentioned first when dealing with the physical aspects of the language of sculpture in Part 1. The importance of this physical reaction is rarely recognised by writers on sculpture. Our learnt experience of moving amongst objects in the world, our spatial experience, our experience of the material of things, our intuitive response to scale and, even, our sense of fear of the unknown all have a major part to play in our evaluation of sculpture. We make subconscious equations between these accrued experiences of the world and the forms of the sculpture in front of us. If we do react subconsciously to the sculpture, if we are affected psychologically by form, then the origin of these capacities is undoubtedly complexly intermeshed with our physical experience of the sculpture being an analogy for our own physical experience of being in the world. In other words we are capable of empathising with the forms of the sculpture, without any intellectual interference and this, I have argued, is why someone with no experience of looking at sculpture, may, on

occasion, be profoundly moved by it. But the big question concerns the nature of this subconscious evaluation. What are those 'triggers' encoded within the sculpture which allow us to react to it in a subconscious way, and how does our subconscious work in a physiological sense.

"The artist is, as it were, not so free in his creative work as he may think he is. If his work is performed in a more or less unconscious way, it is controlled by laws of nature that, on the deepest level, correspond to the laws of the psyche and vice versa." [156]

I think it is fair to say that most writers, when discussing how we understand art, use the idea of the symbol and, essentially tied to it, the tenets of psychology. I have tried to show the problems which Fuller ran into in using psychoanalytic theory as a basis for appreciation of art, when he constructed meanings for sculptures which were simply not encoded in them. In other words he was guilty of projecting his own intellectual readings into a symbolism which simply did not exist in the work. But having pointed out this danger, there can be no doubt that psychology and the symbol have a role in our capacity to subconsciously evaluate that which is encoded in the sculpture.

I must say here that I cannot help thinking that the idea of the symbol has been postured in order to conveniently explain something which is enormously complicated. Basically we use the word symbol when we speak of something that is one thing, but alludes to, or is representational of, something else.

It is usual to make a distinction between 'sign' and 'symbol'. A sign is something like a traffic sign which tells us at what speed we may drive, or which potential hazards we must be alert to at certain points on the road. We learn to equate this sign with a particular message, but the sign itself has no inherent qualities. It is a pictogram which we learn to react to in a certain way. A symbol, on the other hand, is much more than this. Its meaning is not of the same kind. It, like the sign, may be universally understood, but it also has its own inherent qualities and a complex meaning which is not limited to one specific message.

In our European society the cross of Christ is undoubtedly the most potent symbol. It does not give a specific instruction to us, like the traffic sign, but invokes a response in us that is at once collective and individual. Collectively it reminds us of the death of Christ on the cross, but we have, also, a reaction to it that is very personal, and this may include indifference. That is to say that, even if we no longer find any personal gratification in contemplating the cross of Christ, we still, even in our indifference, react to it as a symbol and not, as a sign. This reaction, which is both collective and personal is essential to the idea of the symbol.

One of the problems I have with the idea of the symbol is that it has become a debased word. It is used much too freely and in all sorts of contexts. I think it to be a much more serious word than such use should warrant. I choose two random examples, from the first two books that come to hand:

"Le jeu de balle était pratiqué avant la Conquête dans toute l'aire mésoaméricaine, du Mexique au Costa Rica, ainsi qu'aux Antilles. On pense que les joueurs se servaient surtout de leurs hanches pour frapper la balle, faite de caoutchouc. Les terrains de jeu étaient sacrés, la balle symbolisait le soleil et les parties avaient une signification religieuse et cosmique." [157]

I must confess to an allergy to such texts. The presumption has been made that something over several hundred years old, from a relatively unknown South American

culture was symbolic and 'with a religious and cosmic significance'. We can not really know what the significance of this sport was to the participants and the suggestion of symbolic connotations is a projection from our standpoint of today, and rather a surprising one seeing the apparent disintegration of any active symbolic language in our contemporary society. More of this in a minute. As a ball game is in question, in which 'the ball symbolises the sun' it does make one wonder where such speculation originates from. I suppose that the writer of these words also sees modern football as symbolising man's striving for community action and success, endowed through being played on sacred ground and involving the kicking of the moon into the net of the great fisherman of the night. No! We use the term 'symbol' much too lightly.
Or try this:

"The Greek gods were human bodies universalizing the semantic principle of existence. They were already symbols and, if you wish, signs." [158]

I cannot for the life of me think what Neizvestny wishes to prove with such confusion. I hope that I can do better, although I am not so sure. But before I try I should add that I have heard many, often but not always young, sculptors who, in talking or writing about their work, saying that, "My sculpture symbolises....." This is one of the grandest delusions, for their work never does symbolise that which they claim it to, and invariably symbolises nothing at all.

I should like to turn to Wheeler for help. [159]Wheeler discusses the painting of the 'Madonna and Child with Donor' by Piero Della Francesco in Florence. This is a classic example of the sacra conversazione. The donor of the fresco to the chapel in which it is found, has had himself painted kneeling before the Virgin Mary and the baby Jesus. For the people of Florence it was a demonstration of self-importance by the donor - that he should be kneeling in the 'actual' presence of Jesus. Of course this is merely an illusion, but even today, after the painting has lost much of its original presence, it is an image which has a remarkable degree of believability about it. The trompe l'oueil architecture is still convincing and I am inclined to think that in the days before television and photographs that the viewers may well have seen this painting as a record of an actual event. But this is an aside from my main point.

Wheeler points out that the upper half of the painting works on a symbolic level. The arch, the scallop shell and the egg are all symbols, he would have it;

"The arch for the Romans had been a primitive effigy of Janus the Divine Sky. Janus was an older Jupiter, a sky god, and the Romans used the same word janus *for the god as they used for the arch. Moreover Janus was the god of beginnings. The scallop shell is an ancient symbol of the female sex organ, and the egg has a universal significance as a symbol of rebirth and life."* [160]

Now, those of us brought up on the tradition of chocolate Easter eggs probably have little reaction to the Easter egg as symbol, but rather enjoy its sweet tooth-rotting taste. Our capacity to react to symbols has become anaesthetised. I do wonder, too, if the Renaissance audience to the Piero Della Francesco understood the depiction of these symbols better. Anyone familiar with the Hieroglyphics of Horropollo will probably, like me, be sceptical. Such guide books as these, which illustrate and explain the meanings of Christian symbols, are surely evidence that these symbols were not widely recognised as such. Contemplation of the egg as a symbol of the renewal of the seasons, life and time, is straightforward enough and perhaps widely appreciated. The arch as Janus and the

scallop as the female sex organ are perhaps more dubious. They may be intellectually understood to be symbolic, but to the few rather than the mass. In this case the scallop shell cannot be said to have inherent qualities which invoke symbolic response in the mass of people, but only value as a sign which they can learn from a book, much as we learn the Highway Code. So tied to the symbol is the problem of its range of acceptability - the notion that a symbol may only be a symbol if its symbolic meaning has wide acceptance as such.

But there is another problem which arises here. When I walk through an arch in one of the great cathedrals of England it is often a moving experience. I am often overwhelmed by its physicality and there may be some subconscious symbolism involved in my reaction, but it never leads to contemplation of Janus, or to other symbolic meaning which the experience may have. So the question remains; does the symbol work subconsciously or consciously. The answer would seem to be that the symbol may invite reactions of both kinds. That is to say that a symbol may work on our subconscious and our physical reaction to it may remain on this subconscious level, or we may then begin to make an intellectual evaluation of this experience and of the meaning of the symbol in question.

I propose that much of what we call symbolism in sculpture is not, strictly speaking, symbolic. A cross in a sculpture is firstly a sign and not a symbol. Because it is a real thing we read it firstly as it actually is. A cross in a sculpture of a crucified Christ is an actual physical cross and invites us to read it, initially, as such. It is through our capacity to formulate symbols that we can read it as a substitute for that other Cross of Jesus. Is not, then, the actual depicted cross merely a visual simile for the Cross of Jesus. Is it not just an illustration of the Cross of Jesus. In this case, as illustration, it may refer us intellectually to the idea of the cross as a symbol for something else. This is how a symbol works on an intellectual level in sculpture. It is a simile or metaphor which triggers quite different associations. Here, the symbol does not work on a subconscious level, but an intellectual one and any reaction of a symbolic kind which we may have is logical and literary and dependent on our seeing this cross as an illustration of the other symbolic cross.

There are certain literary symbols that I love - Odysseus' encounter with the sirens, the fall of Icarus, the adventures of the Celtic hero Cú Chulaind and his all too-human drunken romp through ancient Ireland, the devilish actions of the trickster Loki from Norse mythology and even the tidal bore in D. H. Lawrence's 'The Virgin and the Gypsy'. [161] These all appeal to me on an intellectual level as literary ideas which encapsulate certain ideas about life. I cannot help thinking, then, that symbolism and its sphere of action is essentially literary and therefore of words. Sculpture, and probably painting too, uses, when working in a narrative way, signs which may refer to literary symbols. But sculpture does not always give realised bodily form to the symbol itself. Bernini's 'The Ecstasy of St. Theresa' is a wonderful example. It tries to symbolise, but fails. It is merely a set of signs, acting as similes for a literary event. The Cycladic figure to which I compared it is much nearer to what we may think of as a symbol which works on the subconscious. It may be considered to be a symbol of life, of womanhood, or something for which we cannot find words. It encapsulates these things, and much more.

We have turned full circle and come back to what I previously referred to, in Part 1, as Narrative and Embodiment. Narrative sculpture does not use symbols but illustrates something which our intellect may know of as being understood as symbolic. That type of sculpture which is 'embodiment' is not literary and we appreciate it at a level without language. Such sculpture embodies that which it means. I accept that here a symbolic language of the subconscious may assist us in recognising what we physically

see, as alluding to something spiritual, which we cannot see. Here our subconscious reaction relies on our empathetic relationship of the forms, lines and shapes - i.e. the formal aspects - of the sculpture, with our accrued experience of our own being in the world, and in addition our reaction to the gestalt image.

So if we must distinguish between symbols which appeal to our intellect and symbols which make a more direct appeal to us on a subconscious level, then we are left with the same problem with which we began this chapter, that is, the nature of the process which occurs when we react subconsciously to a sculpture. The explanation would appear to lie in psychology and, of particular use, here, are certain concepts forwarded by Carl Jung.

"Thus a word or an image is symbolic when it implies something more than its obvious and immediate meaning. It has a wider "unconscious" aspect that is never precisely defined or fully explained. Nor can one hope to define or explain it. As the mind explores the symbol, it is led to ideas that lie beyond the grasp of reason.
..... But this conscious use of symbols is only one aspect of a psychological fact of great importance: Man also produces symbols unconsciously and spontaneously, in the form of dreams.....

There are. moreover, unconscious aspects of our perception of reality. The first is the fact that even our senses react to real phenomena, sights and sounds, they are somehow translated from the realm of reality into that of the mind. Within the mind they become psychic events, whose ultimate nature is unknowable....." [162]

It would seem that Jung, as I do, believed in two kinds of symbolism. The first is the intellectual, conscious, or literary symbol which may awaken our subconscious. The second is the reverse, a subconscious symbolic reaction which may, in turn, cause a reaction in our consciousness. The first kind I have already dealt with.

Now, you may recall that I quoted Kukorelli, earlier, who suggested that our instincts are genetically instilled in our brain. [163] What Jung argues through his theory of 'archetypes', or 'primordial images', is that each of our instincts has a corresponding psychic manifestation;

"Here I must clarify the relation between instincts and archetypes: what we properly call instincts are physiological urges, and are perceived by the senses. But at the same time, they also manifest themselves in fantasies and often reveal their presence only by symbolic images. These manifestations are what I call archetypes." [164]

Furthermore Jung's theory of archetypes has within it a notion of constancy. If each of us has the same genetically determined instincts, then we can expect a high degree of similarity between the images, or symbols, deriving from these physiologically based instincts. He is, thus, able to argue for the notion of a 'collective unconscious', based on those psychic reactions which echo these commonly shared instincts. Thus Jung's theory of archetypes is still, for me, the most convincing idea put forward by psychology to explain this relationship between the human physiological aspects of perception and its ensuing mental reaction. I would go so far as to say that such a relationship between our physiological conditioning and some corresponding psychic event, is the basis of all the various schools of psychological thought, even if some of them do not openly recognise this. So when we react to our Cycladic female figure as 'thing' it may well awaken our genetically based instincts and, in turn, cause a parallel psychic event of a symbolic nature. This, essentially, occurs on a subconscious level.

It is when Jung, in his other books, goes into details of the nature of specific archetypes that I have difficulty. He seems to move further and further away from the idea of instinct - that is to say physiologically-based notions. Our instincts are based, I have previously suggested in our need for self-preservation, so that our taking milk from the mother's breast might be described as an instinctive act. It is when we try to construct from this the concept of an archetypal mother that we run into problems, for how can we really know the nature of the psychic symbol which our instinct to suckle gives rise to. What I am suggesting is that there is a great deal of supposition and guesswork involved. I suggest that it is at this point that we find the differing theories of the various psychoanalytical schools diverge. I accept that our instincts have a corresponding symbolic psychic effect, but I am neither sufficiently brave, nor sufficiently interested, to attempt to try and analyse that which is essentially mysterious. I quite understand Henry Moore not wishing to read Neumann's analysis of his works, for the sculptor lives this symbolic world and has no need to analyse it.

I have another problem with Jung's version of human psychology. He places enormous stress on the importance of dreams. I too think that dreams have an important psychological role, but Jung was almost invariably concerned with the analysis of the dreams of psychologically unstable patients. I believe that the role of dreams is therapeutic. That is to say that during sleep we rejuvenate not only physically, but mentally too. For the normal healthy human dreaming is a way of subconsciously working through psychic problems and difficult mental issues which we confront in our everyday life. We have no need to understand these for their recuperative effect to work. It is only in extreme cases of mental disturbance that a patient's intellectual confrontation with his subconscious would seem to be beneficial. In other words, in the normal run of things our dreams effect a balance between our psyche and our physical existence. It is only when this balance becomes upset that a conscience effort is needed to evaluate the bad things that are happening in our psyche.

I remember seeing in the late seventies the 'Outsider" exhibition at the Hayward Gallery in London. It was a vast mixture of images from mentally ill patients, visionary and naive artists. There were some immensely powerful images, but one was acutely aware of the mental unbalance of their author. I have seen similar graffiti images in our big cities, especially in toilets, and often concerning the penis, or female sexual organs. Now such images are obviously a form of mental release for their authors and may also exude a kind of raw power to their viewers. But the healthy viewer does not feel any sense of gratification in them. He may, as I did in this exhibition, recognise the direct power of the images, but they are outside of his personal experience and make an appeal only to a sense of fear - fear that he may too, one day, be in such a dislocated mental state.

So my problem with Jung's theory, as with most psychological theory, is that it is particularly reliant on such cases, at the expense of consideration of the more balanced human psyche. I put less value on his findings than on the nun's priest's ideas on dreams, for Chaucer at least used a fine poetic language. Whilst I am sure that Jung's analytic sessions may have helped many patients, there is little evidence that his archetypes in a larger sense have much use in our understanding of the way in which sculpture communicates and this is true, not only of Jungian, but all, psychology.

There is no doubt that certain events in our lives - the reaching of puberty, first sexual activity, etc. - are not only physical, but also psychological, events. As Fuller argued, these events are common to most of us, but it is much more difficult to show that the psychological effect of them is similar in each of us. Furthermore, I propose that it is impossible to prove that this or that sculpture is making a subconscious appeal to those

psychic events which we experienced as a result of our pubescent, or other, development. Indeed, I can think of very few sculptures which seem to awaken in me some deeper sense of life's meaning, for which I can consciously locate this reaction with any degree of certainty. I have mentioned Michelangelo's Pieta in Florence, which does seem to convey a strong sense of the heart-rending tragedy of the death of an offspring for the parents, and there are some, particularly primitive images, which seem to exude a strongly recognisable sense of sexuality. But generally speaking the communication of the sculpture on a subconscious level, remains subconscious and any attempt to make this reaction conscious not only leads us into the difficulties we find in Fuller's interpolating meaning into the sculpture, instead of extrapolating from it, but I believe that the intellectualisation of this mysterious process will actually destroy its reparative effect. In other words, once we try to understand this sometime overwhelmingly mysterious experience of the sculpture, we can no longer experience it.

There may be cases where high art has involved such images of mental distress, as we saw in the 'Outsiders' show, and I am thinking here particularly of the paintings and graphics of Edvard Munch, which I last saw in Stuttgart a few years ago. But generally speaking the images that art provides, and particularly those of sculpture, are generally of a reparative nature, as are healthy dreams, and not only reparative for their authors. For even in sculpture's most grotesque forms, such as in Keinholz's 'State City Hospital' there is a parallel cathartic affect which appeases our sense of horror. No, what we consider to be great sculpture cannot be the product of a perverse mind, for its appeal, its message, would be of an extremely limited range, appealing only to the few, and generally only of curiosity value.

You may recall that I used the work of Tony Cragg to illustrate a kind of sculpture which generally invites an intellectual evaluation. But even Cragg, when working, is exercising his subconscious capacities. Jung suggests that an important capacity of the subconscious is its ability to bring into consciousness new juxtapositions of material, which the conscious had never entertained before. [165]You will recall that Cragg claims to have a 'sort of vision'. Through nurturing his subconscious the sculptor has a rich source of new visual juxtapositions. Many of these he will reject until one or other seems to have a particular poignancy and becomes sifted out from the herd. I do not believe at this stage he has any idea why this image should be any more valuable than the others. I think that it may well have some psychic resonance which he recognises subliminally as being of particular importance to what Moore called his 'form-world', and, perhaps, the world outside of sculpture. I suggest that the visual world of the sculptor is deeply rooted in this faculty, rather than on the language-based logic of the left brain.

Now Jung, in the first part of 'Man & his Symbols' is at pains to point out that our ability to react to symbols has become anaesthetised in the modern period. It may be that shared belief and the community of a coherent healthy society are pre-requisites of the ability to enjoy a shared symbolic order. I suspect that the lack of these pre-requisites make it difficult for me to believe in a dynamic symbolic system at present and thus, to believe that the symbol has any meaningful role in our, intellectual evaluation of sculpture today. I also believe that the effects of the modern medium of television and, to some extent film, has been partly responsible for the anaesthetising of our ability to make an imaginative response to what we are seeing and that this, too, has helped to destroy our sense of a dynamic intellectually symbolic world. Peter Fuller also took up this theme of Jung's on many occasions and suggested that this lack of a symbolic order presents a major problem to artists today, in that there is no common basis of their language. This is certainly true in an intellectual sense, but it is, I propose, only half the

story. For whilst our ability to make intellectual evaluations of symbols has, indeed, become debased, there is no doubt that the kind of subconscious symbolic language I have just described is as potent a force as it ever was in the appreciation of sculpture, and that it must be nurtured today in a world which finds little intellectual value in symbolism. As Jung puts it;

"What we call civilized consciousness has steadily separated itself from the basic instincts. But these instincts have not disappeared. They have merely lost their contact with our consciousness and are thus forced to assert themselves in an indirect fashion. This may be by means of physical symptoms in the case of a neurosis, or by means of incidents of various kinds, like unaccountable moods, unexpected forgetfulness, or mistakes in speech.". [166]

Jung also makes another important point about the difference between the modern and ancient attitude towards symbolic imagination;

"The fact is that in former times men did not reflect upon their symbols; they lived them and were unconsciously animated by their meaning." [167]

The implication of what he is saying, and this I believe to be the main difficulty in appreciating the language of sculpture today, is that we are obsessed with analysing our experience. We have become so concerned to understand our experiences intellectually, that we no longer able to actually experience them. What I am suggesting is that the visual world in which sculptors live, and the visual language which they use is still holistic. That is to say that sculptors do not intellectually analyse their subconscious life, or symbols, but live them and are unconsciously animated by their meaning. They may consciously use literary symbols in a metaphoric way, but the symbolic language of their unconscious is employed automatically and subliminally, and they have no need to analyse or understand it. It follows that a state of mental openness and readiness in the viewer is a prerequisite, if he is to understand the messages encoded in the sculpture, and that this is largely dependant on the exercising of his subconscious empathetic capacity. It is the exercising of this capacity which the viewer finds so difficult at present. He has become so used to using his intellectual capacities that he may simply be afraid of allowing himself to be lost in the unknown of a pure empathetic reaction to something as harmless as a piece of sculpture. It may also be true that he has become so used to analysing intellectually his experience, that a direct, visual, subconscious reaction is no longer available to him. When people tell me that they do not understand a particular piece of sculpture I usually recommend that they simply look at it harder and I mean this not patronisingly, but quite literally. I propose that it is here that the basic difference lies between the way in which sculptors and non-sculptors regard sculpture. Generally speaking, but by no means always, the sculptor is ready to both create and react to sculpture in a visual subconscious way, whilst the viewer invariably requires a rational explanation of that which is before him.

There is a remarkable similarity between the idea of Jung's archetypes and that of the way a sculpture communicates. For Jung the archetype is a mental, subconscious reaction based in the physical substrates of human physiology.[168] Our reaction to a sculpture, or in other words the meaning we construct when viewing a piece of sculpture, is a mental reaction to the physical substrates, i.e. the physical presence and form, of the sculpture. So a sculpture may be thought of as a physical manifestation of the human psyche. The sculpture may therefore have a reparative role, just as the dream

does. It will have such a role when the meaning it encodes is based in matters universal, which may, (or may not, depending on your stance towards psychology) be linked to Jung's archetypes, but which are certainly linked to those psychic equivalents constructed by our own physiological being. This is why sculpture has a redemptive role to play in today's society. It is a last bastion of the world of subconscious symbolism. The viewer may be facing an object which not only encodes the psyche of the sculptor, but also acts as a mirror of his, the viewer's, own psyche. No wonder that it may be uncomfortable for him to leave the realm of intellectual security, when faced with it.

I was, earlier, at pains to suggest that much of the activity of the sculptor in his studio takes place at a subconscious level; that logical, conscious thought has a small part to play in his working procedures. I have also argued that the sculptor's task is to try and control that which is encoded in the image to which the viewer must react. These two arguments would seem to be contradictory, and I believe that they are. It is here that we have the nub of the problem of creating meaning in sculpture. The sculptor, residing in the world of the visual, finds appropriate forms and shapes to convey certain concepts about the world. But he does this at a subconscious level, rather than as a rational programme. The forms that he chooses may, inevitably, reveal things about himself which he does not consciously know. So, in simple terms, what I am arguing is that a sculpture is a physical manifestation of the sculptor's psyche. It is the unseeable made visual. If I am right, then this means that the question of universal appreciation of a particular artists work is reliant on his psyche, in visualised form, awaking deep and meaningful echoes in the respective psyche of his viewers. This is the world of our empathetic capacity. Whether or not the symbol has a role to play in this process is perhaps irrelevant, for, as Jung himself has suggested, symbols are merely used;

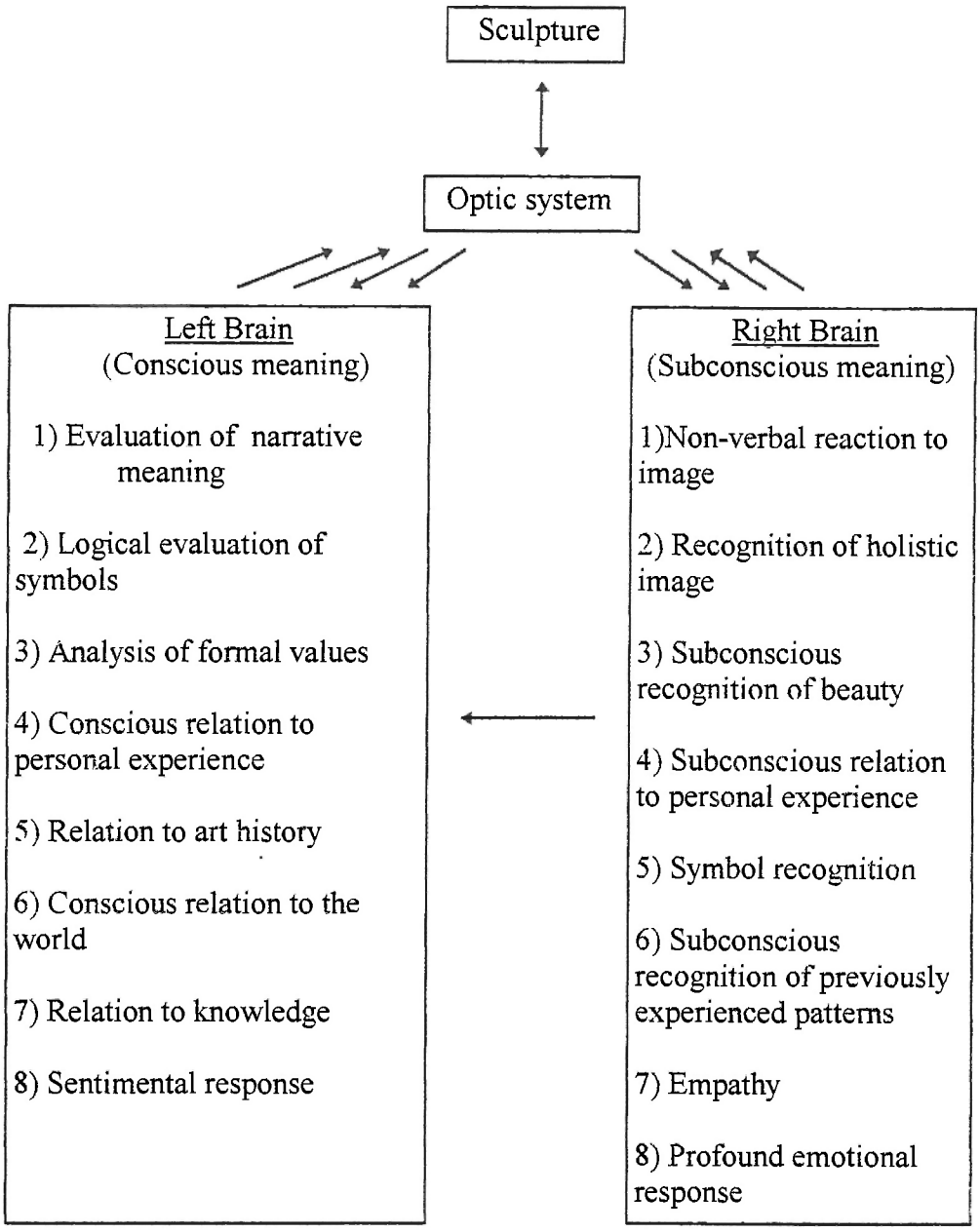
"to represent concepts that we cannot define or fully comprehend." [169]

What is sure is that our physiological processes would seem to have a corresponding psychic event and that sculpture, at its best, is a physical manifestation of this mysterious relationship between the physical and the mental.

I have argued that our ability to react to a symbolic language has been somewhat anaesthetised. That is to say, that when we consciously recognise the symbol of the Cross of Christ it rarely triggers our reaction to the contemplation of the deeper meaning of the Cross. It works rather as a metaphor, than as a dynamic symbol. When sculptors consciously use such devices in the narrative content of their work, they are, today, metaphors for that which may have, at other times, been symbolic in a true sense.

I stand by this argument, but we must remember that sculpture can communicate in more than one way. A sculpture may communicate through narrative. I have just argued that it may communicate to our subconscious. The type of symbolic language which has become debased is that of the consciously derived symbol, whilst the subconscious, symbolic, communicative mode has a vital role, just as it ever did in the history of sculpture. It is dependant on the reaction of the right-sided hemisphere of our brain and upon the psychic events which occur in parallel to certain physiologically based perceptions. So I am arguing that in our present society the narrative, with its metaphors, and the subconscious symbolism of the empathetic are the two modes of communication which remain for sculpture, whilst the possibility of a truly dynamic, conscious, symbolic language is denied to us.

Having said all this I must mention one other thought. I have no doubt that Fuller's intellectual evaluation of his reaction to the Venus de Milo was quite sincere. For him, he may really have experienced these things in response to the sculpture. So my hypothesis may be entirely wrong and the sculpture may simply act as a kind of psychic kicking post which allows for any and all interpretations. But if I believed this I would no longer be able to practise as a sculptor. For the standpoint of the sculptor is that he is in some way in control of what he is encoding in the objects that he is making. For the sculptor has something to communicate about being in the world. He does this in the visual language of his profession and it is, I hope I have been able to show, a language in which words are of no use. His is a language of shape and form, of the neural reactions which perception of these forms gives rise to, and of the ability of our physiological equipment to make an imaginative dynamic relationship between the physical nature of objects, and their corresponding psychic effect. What is more, the sculpture he has made invites our evaluation of it in its own language.



A simplified diagram of how, I believe, we may perceive sculpture.

Chapter 3 Ód

My friend László is here mending my fork-lift and he asks me what I am working on. I tell him what I am writing about. He is interested and our discussion continues later over a beer. He mentions a book that he has been reading and, a few days later, calls me to tell me he has bought a copy for me. It lies on my shelves for some months. Laci was sure it would help me and, when I read it, I find that he is right, although not, I suspect, for the reasons that he was thinking of.

Johannes Greber was born in 1874 in Switzerland. Following studies in Trier, he was ordained into the Catholic Church and was soon sent to the parish of Hunsrück where it became apparent that he was endowed with unusual healing powers. In 1923 a stranger appeared in his office and asked him to visit a 'spiritualist' prayer-meeting in which a youth was apparently possessed by a messenger of God. Sceptical, at first, Greber continued his contact with this and other messengers and later published a book of the teachings passed on to him. [170]

Greber made short-hand notes of his encounters with God's messengers and the first part of his book contains the background story and a selection of these interviews. The messengers had a hierarchy and his chief messenger was very close to God himself. There is an uncanny authenticity to the messages which he relates in part 1, but this is beside my point. What is of particular interest to me is the second part of the book, 'The Laws of the Life-force', and you will, I hope, bear with me if I make a précis of the main points of the transcriptions.

We are told that the ancient scholars were correct in construing that man consists of body, mind (or spirit), and 'soul'. If the mind or intellect wishes to move the body, it requires an energy source and this is the soul, or the 'life-force' of the Bible. (In Hungarian: Ód). Life-force can be found in everything which God has made; in all men, animals, plants, stones, minerals, water, all the heavenly bodies, in every intellect and in everything which exists. The life-force is not material, but of the spirit, and is always connected with the spirit, in that it is the driving force of the spirit. The spirit contains the life force. Where there is life, there is life-force, and where there is life-force there is spirit, so that there is spirit (or soul) in everything. The life-force is similar to our earthly currents, e.g. electricity, none of which are purely physical and none purely of the spirit.

The human body, as well of that of animals, plants and minerals are condensed forms of the life-force and all growth is dependant on the fundamental laws of the life-force. Each living thing has a different combination of the life-force and this is true of different members of the same species and this is why we are all visibly different. We are unable to understand the secret of life - of how things grow and become. It is the invisible life-force which causes these things to happen. The air, water and food contain life force and our body extracts the required Ód from these as they pass through the blood.

The life-force in the air, in water and in food comes from the earth, which, as a heavenly body, contains a mixture of life-force and also radiates it. The earth contains all the necessary types of Ód necessary for the life sustained on it, but it also collects the radiation of life-force from all other planets, particularly from those which are near to it. Each heavenly body has its own life-force mixture, which is different from that of all other heavenly bodies. All the heavenly bodies radiate life-force to the earth in different measure and, as the planets are constantly moving, the concentration of this radiation

constantly changes too. The position of the planets at birth have, therefore, an enormous impact on our being. (This is, of course, the fundamental principal of the Babylonian horoscope). So the body of all living things is a mixture of compressed life-force, derived from the Ód radiation of the earth and its surrounding heavenly bodies.

Three different states of the life-force may be distinguished in all living things; that of the spirit which has achieved bodily form in the living thing, that which provides the driving-force of the body, and, finally, the solidified life-force, which we call 'body'. The relationship of these controls health and sickness, and earthly life and death. When the earthly body dies the life-force of the spirit takes over the body's life-force. The body itself has no independent life-force, but only that of its related spirit. When the physical body is sick the life-force of the mind has the power to heal the body. This healing power may also be transferred to other living things. When we use plant-, animal-, or mineral-based, medicines we are taking the life-force from the respective plant. animal, or mineral. When a mother strokes her sick child she is passing on this healing life-force.

Every living thing has a life-force aura, as do the planets. The earth's magnetic pull is part of its life-force radiation. The aura of a body has a similar form to that body. This is our 'astral body'. This cannot be seen. The life of the mind, of our environment and of all natural force exists in wave form. All thoughts and wishes are enabled by oscillations of the life-force, which the mind, as the carrier of the life-force, enables. All bodily senses and mental feelings are based in the oscillations of the Ód. Sounds, colours, taste, smell and touch are facilitated by the vibration of life-force. Everything which we see and experience is based in the vibrations of the life-force.

The exact workings of this cosmic system are God's secret and will never be revealed to man. Man searches for the overview, for the meaning of life, but finds only parts of the answer:

„Az egész kozmoszt átáromlő és minden testet áthatoló ód rezgései a számok nagy isteni titkán *alapulnak. Ti, kis emberek sohasem fogjátok ezt a titkot kideríteni. Ti a világtörténések* egységszáma *után kutattok. Ezt nem fogjátok megtalálni, jóllehet egyes számtitkokat már megfejtettetek. Ismeritek az egyes hangok hullámainak számát. Próbálkoztok a színek ódhullámzásának alapját képező számok kutatásával. De mindez mi az előttetek elzárt igazságok végtelen tengerével szemben?"* [171]

The harmonious oscillations of the life-force give rise to a sense of beauty, health, joy, peace and happiness, whilst disharmonious oscillations cause hate, sickness, pain and unhappiness. The oscillations of our life-force affect not only ourselves, but those around us. These oscillations leave a trace on our own Ód body. Here lies our capacity of memory. These traces may also be perceived in us by others.

Perhaps this is enough. The teachings continue, but I hope that you have got the idea, and may see, in the light of what I have written before, where this is leading to. As I read this text, of which I have only given a brief outline, I was astonished by how similar it is to certain aspects of Einstein's physics, to the psychological theories of Jung, to much Buddhist teaching and indeed to some aspects of the evolutionary genetic theory which I described earlier.

At first sight the explanation may lie in the fact that the world view presented here is general, non-specific, simple and, thus, all-inclusive. This may be true, for it seems not so far from the mundane, and it is certainly difficult to find fault with it. But I propose that there may be another reason why these messages may seem to have connections to so many, various, schools of thought.

You may recall Eccles' difficulty with an evolutionary theory which allowed no space for mental experiences:

"The modern Darwinian theory of evolution is defective in that it does not even recognise the extraordinary problem that is presented by living organisms acquiring mental experiences of a non-material kind that are in another world from the world of matter-energy, which was formerly globally comprehensive." [172]

I have already expressed something of my own difficulties in accepting the modern, genetic, version of evolution. I should, in the light of Greber' text, like to return to the question. Evolutionary genetics is based on observation. It would appear that there is considerable evidence which suggests a probability that we may have genetically evolved in the way in which Dawkins or Smith suggest. There is no concrete proof, but even if we accept their hypothesis to be correct, there is absolutely no notion at all in the theory of how, or why, evolution occurred. As a logical construction derived from a series of possible events, it seems most convincing. The same may also be said, I would say with much more certainty, of Einstein's physics. But both of these theories explain only a world of physical aspects.

If you are expecting me to suggest that Greber's spiritualism fills the gaps in modern genetic theory and Einsteinian physics, then you are wrong. But, Greber is important to my argument in that the teachings contained in 'the laws of the life-force" in part 2 of his book are an example of a holistic world view. Einstein's physics and evolutionary genetics deal with single aspects of our existence - how the physical world behaves, in the first case, and how we derived our present physical form, in the second. These teachings from Greber's messenger of God, try to explain every aspect of our being, and, I think, do so rather well, for they contain, albeit in a simplified form, Einsteinian physics in a world view that is both physical and spiritual, at one and the same time.

One of the greatest problems which modern science faces is that it has come to rely more and more on an intellectual analysis of a purely physical world. Its findings are essentially materialist and its methods, of the intellectual thinking of the left brain. Whereas Darwin still had room for God, albeit very little room, we rarely find modern scientific research which considers that life is not only a complex of material states.

I am not the first to point out that there is a new trend in modern scientific research. Many scientists have become aware of the limitations of their experiments. Pick up any book in which one scientist is criticising the findings of another and he will invariably find fault with the methodology of the experiments adopted. For too often the experimenter will allow his own aims to subconsciously affect the methodology and outcome of the experiment. That is to say that, the desired results affect the whole procedure from the start and make it difficult for the experimenter to be truly objective. [173] **This has meant that scientific research has become more statistically based. The scientist no longer says categorically that this, or that, is true, but rather that on available statistical evidence, this, or that, would seem to be demonstrable. In other words the search for empirical laws would seem to have been put to one side, in favour of observations of how matter would <u>seem</u> to behave. So much scientific research, dealing with the physical, may be seen to have abandoned its endeavour to find holistic meaning in, and of, the world. Just as our society has abandoned the right brain in favour of the logic of the left, so has physics forgotten the metaphysical, which was once an integral part of it.**

I have made mention of a number of writers who suggest that there is a correspondence between the way in which we experience the world and the physiological patterns employed by those biological systems which are enabling this experience. One of our biological systems is that part of the left brain responsible for intellectual reasoning. It too, I believe, has the ability only to work in limited ways. What we consider to be 'logical' may well be a correspondence between certain thought patterns - or brain-wave patterns - and the physiological process in which the relevant parts of the brain are involved during 'rational' thinking.

If we wish to analyse that part of the self which is not physical we run into great problems. We must try and use intellectual arguments which are limited in their scope by the nature of the system producing them, and by the limits of the language, to explain something which is essentially beyond the rational. So in every hypothesis about the physical or non-physical world, there comes a point where rational argument is no longer of any use. We, probably, never will understand the world, (as Greber's messenger said we never would), although we feel the need to try. But in each hypothesis of meaning which is put forward there comes a point where belief must come into play. Einstein's theory can never be proved to be true, but it can be, and is, believed in, just as some believe in the God and Christ of the Bible.

It follows from this that there is a further link between genetic evolutionary theory, Einsteinian physics, and Greber. Given the limited pattern of our logic, these, and all scientific theories, require belief, just as do religions. We can rarely discover something that is really new. What we can find is new ways in which to attempt to explain and understand. But, unable to say that this or that is absolutely true, we must rely on belief to fill the gap left by the inability of logical thought to grasp the intangible. So we must view scientific theories as models which may help us to understand the world. The models which we seem to favour at present are based exclusively in the physical nature of the world, whilst religious models are left to deal with the spiritual.

And now I must confess. The laws of the Ód of part 2 in Greber's book is extremely close to the world view which I have held for some time, although I knew nothing of him until the last few days. For contemporary physics I suspect that it is much too wishy-washy. I am not sure, either, that I believe in God - certainly not in the Christian sense - if I may be allowed to have the life-force without him. I suppose that for me the life-force is god, whilst the God of the Bible is much too near to Jung's archetypes for my liking. He smacks of a convenient way to categorise the inexplicable. But there is, perhaps, no other way in which our rational capacities can equate and understand those intangible aspects of life, which are so vital to a healthy existence.

Perhaps the only part of the Bible's teachings which I have never, or rarely, doubted is the notion that 'God is everywhere". Now Greber's text on the Ód suggests a plausible notion of how this may be. It is essentially an animist theory, in which each tree, river, stone, each living thing and, indeed, man-made artefact, has its own spirit. It is to this world view which I subscribe. Now Einstein's relativity theory, albeit differently, is founded in the notion of forces in relation to each other, in much the same way as Greber's 'theory', if I may call it that, and I have little doubt that Einstein's theory is correct, although Einstein did not, I think, see his physical theory of the world as being dynamically related to God. My belief is that the 'life-force', or Od, and the energy of Einstein's physics, are themselves God. In other words I suspect that what we refer to as God, may have had his own God too. The notion of God personified seems to me to be a convenient way for the human brain to grasp the ungraspable and one to which I can not easily subscribe. God as a kind of head master, or spiritual king or prime minister, is a concept which I suspect is man-made, - if we assume that the thesis of

Lethridge and Von Däniken is incorrect, which it may well not be - whilst the idea of a synonymously based physical and spiritual life-force is, perhaps, not.

You may, justifiably, ask what all this has to do with the way in which we understand sculpture. In a roundabout way I think that it does. I have been at pains to argue that certain capacities with which we are endowed are common to all of us, and I shall be looking at this problem again, in a different light, in the next chapter. I have spent some time with Greber's Od, because it is in some ways the antithesis of what I have been trying to argue about biological constancy between us. For the world described by Greber's messenger of God is one which is somehow all inclusive and yet individual. In other words it tries to explain a world which is both objective and subjective and, in this, it is much closer to the way in which we view sculpture, than the approach of modern science, which is concerned with the objective alone.

"Modern physics and physiology throw a new light upon the ancient problem of perception. If there is to be anything that can be called 'perception', it must be in some degree an effect of the object perceived, and it must more or less resemble the object if it is to be a source of knowledge of the object.....What we can know of physical objects in this way, however, is only certain abstract properties of structure.... Our knowledge of the physical world, therefore, is only abstract and mathematical." [174]

Bertrand Russell belonged to the 'objective analysis' school of philosophy, which tried purposefully to expunge all subjective experience from philosophy and find truths which could really be considered as absolutely objective. What he argues is that all previous philosophy was infected by various moral standpoints, which made objectivity an impossibility. He suggests that the new standpoint of his school is applicable in all fields of life:

"In the welter of conflicting fanaticisms, one of the few unifying forces is scientific truthfulness, by which I mean the habit of basing our beliefs upon observations and inferences as impersonal, and as much divested of local and temperamental bias, as is possible for human beings. To have insisted upon the introduction of this virtue into philosophy, and to have invented a powerful method by which it can be rendered fruitful, are the chief merits of the philosophical school of which I am a member. The habit of careful veracity acquired in the practice of this philosophical method can be extended to the whole sphere of human activity, producing, wherever it exists, a lessening of fanaticism with an increasing capacity of sympathy and mutual understanding." [175]

Now Russell's philosophical standpoint would seem to have had a grip on contemporary science and thought, and indeed on art and sculpture, since he first wrote these words in 1946. We have been trying to create an objective world view, often based on mathematical models, which may be considered to be wholly objective. It is a model based on the logical procedures of the left brain, and here mathematics may truly be described as providing the most logical language that we have. The problem with it is that it thus directly excludes that part of our existence which is subjective.

The great achievement of Eccles was to establish that thoughts are capable of causing physical and chemical reactions in our bodies, and, this he did by using Einsteinian physics which were, until now, thought to be totally objective.

"Following Margenau (1984), the hypothesis is that mind-brain interaction is analogous to a probability field of quantum mechanics, which has neither mass nor energy yet can cause effective action at microsites. More specifically it is proposed that the mental concentration involved in intentions or planned thinking can cause neural events by a process analogous to the probability fields of quantum mechanics." [176]

In other words intentions and planned thinking may be causal of physical responses. Now, our thoughts and intentions must be seen as personal and, therefore, subjective, even if we are trying to make an objective analysis. Eccles' thesis has therefore undermined the entire trend of modern scientific thinking, for it has reinstated the importance of the subjective, and done this in the language of 'objectively' based science. We are, therefore, no longer able to conceive of a purely objective world, as such, as our conception, or perception, of it is, in part, subjective.

I suspect, then, that Greber's Od, and other world views similar to it, is nearer to the truth than Einstein's relativity theory, for Einstein deals only with the specifically physical part of our world, whereas the laws of the Od, general as they are, at least deal with the problem of the relationship between the subjective and objective. So the implication is that, following Eccles, we must think in terms of a 'post modernist' science, in which we must, again, construct a scientific world view which deals not only with the objective world, but with the subjective too. This is true not only for science, but for sculpture too, and I believe that, in both fields, this requires a reinstatement of the importance of the right brain.

Before we leave the subject of the 'life force' I must mention one area of research that has always had a particular fascination for me. Many years ago I visited, quite by chance, the Merry Maidens stone circle, near Lamorna, in Cornwall. I was walking along the road nearby and discovered an ancient burial chamber under the road, which I crawled into. I then felt impelled to retrace my steps and found this stone circle in a field, hidden by a high hedge. As I entered it I felt a great surge of energy. It was something like a mild electric shock and it left me feeling quite dizzy. I began to read up on the circle, in hope of finding some explanation, and it was then that I discovered Lethbridge's book, which I have already mentioned in another context.[177] Lethbridge had a similar experience at the same circle when dousing there.

Further reading lead me on to the work of a number of writers including that of Guy Underwood. Now Underwood went much further and wrote of energies almost immeasurable and unknown to orthodox science. Many of the stone circles and standing stones of Britain are erected from quartzite stone, which we recognise today as being an especially good conductor. Many theories have been put forward with regards to this earth energy. [178] I quote Underwood:

"Observations of the influence which affects the water diviner suggests that a principle of nature exists which is unknown to, or unidentified by science. Its main characteristics are that it appears to be generated from within the Earth, and to cause wave motion perpendicular to the Earth's surface; that it has great penetrative power; that it affects the nerve cells of animals; that it forms spiral patterns; and is controlled by mathematical laws involving principally the numbers 3 and 7. Until it can be otherwise identified, I shall refer to it as the Earth Force. It could be an unknown principle, but it seems more likely that it is an unrecognised effect of some already established force, such as magnetism or gravity.

The Earth Force manifests itself in lines of discontinuity, which I call geodetic lines, and which form a network on the surface of the Earth. The lower animals instinctively

perceive and use these lines, and their behaviour is considerably affected by them. Man is similarly affected, but less strongly, and cannot usually perceive the lines without artificial assistance." [179]

I must confess that since reading this and other material like it in the seventies, that I have found little that has been added (unless I have been looking in the wrong places), but my hunch was, and still is, that there may be scientific evidence to be found to take 'Od' out of the realms of the spiritual, alone, and base it, at the same time, in the realms of the physical.

Chapter 4 Taste and self-expression

Earlier on I spent what may have seemed an inordinate amount of space trying to establish the existence of a notion of genetic constancy between each of us. If such a genetic constancy exists then we may argue that the mechanisms of our biological functions also have a considerable degree of constancy. I have suggested that our sense of moral value has been eroded, as has our ability to react to a dynamic symbolic system. I have suggested that their erosion has been caused by a lack of constancy of belief. I have suggested that the ultimate experience of art, the recognition of overwhelming beauty is a result of our shared biological systems making a kind of equation between the operating patterns which they employ and certain configurations extant in the piece of sculpture being viewed. I have also suggested that certain physiological structures may have parallel psychic factors, and that there may be a subconscious interaction between the psychic state of the sculptor and that of the viewer, mediated by the information encoded in the sculpture. This is the basis of my aesthetic theory. The importance of the notion of constancy, which has already arisen on occasion, will, I hope, become more apparent through a brief look at ideas on taste and the notion of self expression on the part of the sculptor.

As with every writer who has tackled the subject, Peter Fuller ran into difficulties when he dealt with the question of 'taste' in his essay 'Questions of Taste'. [180] It is one of those essays which makes enjoyable reading for, at his best, Fuller certainly had a knack of combining serious argument with a good measure of humour. Interestingly the essay reveals a great deal of Fuller's own 'taste', in the sense of personal prejudice. What Fuller argues is that there is such a thing as taste in this sense of personal prejudice, but that this is not real taste. He uses, as I have elsewhere, the simile of the wine connoisseur:

"He may well have a general preference for clarets rather than burgundies, and a particular liking for that distinctive, though hardly superb, wine he first drank on his wedding day. But, he will tell us, his fancies do prevent him from discriminating between a bad claret and a good burgundy; nor from recognising that there are, in fact, better vintages of his wedding day wine than the one he personally prefers. When he makes statements of this kind, our connoisseur is acknowledging that he, too, is not merely judging for himself, but for everyone. He regards quality more as if it was a property of the wine itself rather than an arbitrary response of the taste buds." [181]

What Fuller argues then, as do many writers on the subject, is that there is, on the one hand, something which we may call personal taste and something else which we may call a 'universal' taste. Fuller suggest several possibilities as to the origin of this universal taste. In the above quote it may be seen to be a function of the object itself, a function of the wine. He has also, elsewhere, suggested that there may be a psychological foundation for this faculty. [182] In fact, in this essay, he has no answers, but rather brilliantly worries the problem of what determines our faculty of real taste. The nearest thing to an answer that he gives is a kind of melange of the biologically determined functioning of our senses and acquired 'culturally and socially determined habits'.

Fuller introduces Immanuel Kant's ideas on taste although, ultimately, he does not entirely agree with them. Kant argued that logically when a man says that, 'Canary wine is pleasant' what he really means is that 'Canary wine is pleasant for me'. Kant argues that such statements are matters of 'taste' and personal to us. One may not, however, make such judgements when talking about beauty, as when someone makes a judgement about beauty, *"he supposes in others the same satisfaction; he judges not*

merely for himself, but for everyone, and speaks of beauty as if it were a property of things." [183]

Fuller argues with Kant's thesis on the basis that Kant has made 'taste' a personal thing as distinguished from an appreciation of beauty and he, Fuller, thinks that real 'taste' is something more than personal preference. I suppose that I agree with them both in some degree. Our appreciation of beauty certainly has nothing to do with personal preference and the notion of what we call 'taste' is indeed, as Fuller says based on some sort of socially and culturally determined consensus. The important distinction for me is that the exercising of taste is an acquired - i.e. culturally learnt - activity, governed by intellect. The appreciation of beauty, I propose, is not.

I have proposed that the appreciation of ultimate beauty in sculpture is biologically determined and therefore relatively constant, although our reaction to this ultimate beauty is dependant on our ability to break down the veils which our biological systems throw up in their normal workings. The rest of what we call aesthetics is, I propose, based on taste. That is to say that it is a culturally learnt ability to recognise beauty, but on an intellectual level. That is to say that it is based on consensus and not constancy.

Taste, then, and much of what we call aesthetics, is reliant on comparative values. I have made such comparative judgements throughout this text when discussing certain sculptures. They are intellectual judgements. As a sculptor I believe in an ultimate beauty, beyond taste and beyond comparative value judgements. It is this beauty, and only this, whose origin I place entirely in a constant biological function.

Now if beauty is not a personal thing - although our experience of it, inevitably is - then we must once again return to the activity of the sculptor in his studio. If he, as I have suggested, is involved in an activity which resembles in some degree that of a child at play, how may he possibly make something which triggers a profound response to beauty.

The comment is often made that the artist indulges in self expression. This is, to some extent a mistake, or at any rate a gross over-simplification. Of course the sculptor can only present a personal view, but the artist's personality, per se, is generally uninteresting. It only has value when it becomes related to the world outside of himself. Then it may have meaning for others. Werner Herzog, the film director, once said in an interview that his films were all based on a personal passion, but that this passion had no meaning unless it could be amalgamated into a relationship with some universal theme.

In a previous chapter, I gave some background to my own personal world. I mentioned in it some of those things which I feel to be of great importance to the way in which I see the world. These are personal prejudices. I quite purposely mentioned my dislike of Thatcherite politics. Now, if I were to make this the subject of my sculpture, it would be self-expression, an expression of my political views, or rather, of those views to which I do not subscribe. Hans Haacke makes sculpture that is political. His works involve critiques of the business strategies of large companies and, pointing a finger at corruption and immorality, as they do, are, I imagine, of considerable embarrassment to those companies. Now these are sculptures that appeal purely to the intellect. They remain personal to Haacke and particular to their time and place. They have no qualities which relate them to life and morality in a wider sense than their political message, aimed at a very specific target. They are in no way universal and, indeed, that is clearly not their intention. They carry a strong political message, but at the price of any possible aesthetic reaction. This is all right and a valid standpoint for a sculptor to take, but it is one which is, for me, fundamentally lacking.

I should like to return, for a moment, to Fuller's essay on Michelangelo's Moses, and to one particular passage;

"*Michelangelo was, of course, a homosexual. If Leonardo was the painter of the blissful maternal smile, then Michelangelo was the sculptor of the male body in struggle, of paternal power, and the father-son relationship. Many of his best known images-David, God creating Adam on the Sistene ceiling, the representations of the prophets, the slaves, the Moses, and the Son of Man returning in the* Last Judgement-*spring from this nexus. At different moments of his life, the focus of Michelangelo's interest shifted from son to father and back again. The male nude became for him* the *instrument of expression; he was notoriously uneasy with the unclothed female body. Thus the haunting statue of* Night *is transparently that of a youth with female elements less than lovingly added on. The convention by which Renaissance sculptors generally worked their female nudes from male models cannot provide a sufficient explanation of his work, especially when one remembers that towards the end of his life Michelangelo developed an impassioned spiritual obsession for a religious woman, Vittoria Colonna, whom he described in a poem as 'A man, a god rather, inside a woman.' The sub-theme of Michelangelo's iconography-as manifested in the* pietas *and sculptures of the Virgin and Child-is that of his longing for the lost absent mother."* [184]

Quite unknowingly I, earlier, criticised the same works on different grounds. I argued that Moses, David, and the Dying Slave, seemed unrelated to their purported subject. I, also, suggested grounds for the inadequacy of the captives. For once I think that the first part of Fuller's analysis may be, partly, correct, although, as usual, he goes too far. There is simply no basis in the works for his seeing 'paternal power, and the father-son relationship'. These works do contain a sense of personal fascination with the male body, itself, on the part of Michelangelo and this may be of a sexual kind. What is important, for me, is that these works have not successfully, transcended Michelangelo's personality. They really have a great sense of self-expression but have not successfully related the self to the universal. That is why, fine as they are, they are not profound. I utterly disagree with Fuller about the later Pietas, for they are, I believe, universal and I suspect that Fuller is reading too much into the fact that the female figures are simply unfinished. As we see them they appear to be profoundly tender, and in no way obsessive.

If I were to use my love of the Welsh, or indeed the English, landscape as the basis of my sculpture, this too would be a meaningless form of self-expression and, subsequently rather uninteresting, unless I am able to lift it to a higher level in which the self is negated, in favour of that in it which is universal. In truth, the Welsh landscape has value to me, although it has little visual impact on my sculpture. If I wish to make it a major part of my work then my relationship to it must be subsumed in something greater than me, if it is to have any meaning other than that of personal gratification. The problem is that this greater thing, the universal, cannot be programmatic. That is to say that a sculptor cannot begin to make a sculpture and think of how it will relate to the universal. One is almost inclined to think that this happens by accident, as it would appear it must do, for there are no ready formulas.

I have already suggested that our aesthetic responses are not of our own controlling. They are a primary function of our biological system. They are pre-conscious and their nature is determined by our biological systems themselves.

If I make a sculpture it may contain my version of the 'truth', or a part of it. This is meaningless self expression unless you agree with it - that is to say that it arouses in

you the same accord of understanding of this 'truth'. Logically, if only some of you agree with it then the basis of this agreement is probably learnt - it is in part an agreement based on 'taste', and implied in this, on learning; for 'taste' is learnt. If all of you agree with it then it may be said to express a truth that is based in our biological condition and common to all. As we know there is no such sculpture which encodes some universally recognised truth and so the mistake is often made that our aesthetic capacity is based in taste. This is not so. We are all unable to agree as to what is truth in a sculpture because our learning blinds us. Our learning actually inhibits us in the use of our pure biologically-conditioned response. Our learning prejudices the use of our empathetic capacity, not our lack of learning. Learning inhibits the use of our primal biologically-determined reactions. Learning gives rise to 'taste', but 'taste' is acquired and developed and must be distinguished from our real aesthetic capacity, our ultimate sense of order, which is often referred to as beauty.

Those moments of 'truth' encoded in a sculpture are something which the artist perhaps stumbles upon - constant engagement and openness allow that he may sometimes manage to shut off the inhibitor that is taste and to reach the ultimate basic level of the biological system itself. This, encoded in the sculpture is the universal truth that is available to those not too inhibited to empathise with it. Those who evaluate through the dictates of taste will not have this real, fundamental, reaction to the truth, but a quasi-intellectual physical reaction, which they mistake for the truth.

I believe in a response to sculpture that is essentially visual and of the physical world. The exercise of taste is a language-based mind response. What we often refer to as beauty in art is a recognition at a purely physical level of the encoded order that is equatable with our extant biological order. When we experience something which we find beautiful in a landscape, or in a work of art or music, or even in those moments of beauty experienced in solving some complex mathematical problem, our biological system is recognising those patterns on which its own functioning is based. This is our ultimate aesthetic experience. Our experience of a thing as being beautiful depends on that thing reflecting, rather like a mirror does, the configurations of that biological system experiencing the thing. A sculpture's ultimate purpose is, through its visual language, to encode such experiences.

Chapter 5 Our Times and Time

"The aim of life and the business of education should be the development of the ability to interpret experience to the end of perceiving reality. And this reality is something which cannot be measured, analysed, reduced to constituent parts or embalmed in a set of rules. It is something which is perceived through the work of art, through religion, through science or through the act of profoundly living. In the last it cannot be described but felt, and the true expression of our deeper feelings is, for the most of mankind, achieved through the medium of art, whether it be poetry, music, painting or folk-song". [185]

Modern education has placed too much stress on logic. The requirements of Academia force us to think and write in a logical way. Our modern society has become geared to this way of thinking. Our empathetic capacity has become a second-class way of evaluating the world. We are literally taught to fear experience of a kind which is not logical, in that it is not considered to be materialist. I hope that I have shown that this non-logical, non-linguistic experience is, in its primary state, much more materialist than 'logical' thinking. Logical thinking may be governed by the pattern systems of our brain but it is sullied by the limitations of language. The majority of its arguments are based not on real problems, but on the inadequacy of language itself to adequately explain things. On the other hand we have no control over our prime aesthetic response - it is the recognition of the patterns of our biological system presented in a visual analogy. As Jung puts it;

"We are so accustomed to the apparently rational nature of our world that we can scarcely imagine anything happening that cannot be explained by common sense. The primitive man confronted by a shock of this kind would not doubt his sanity; he would think of fetishes, spirits, or gods.' [186]

In science lessons in school we had a particular order in which we were made to present our experiments. First we must write out the Aim of the experiment, then the Method, our Results and, finally, our Conclusions. This system determined the way we approached what we were doing and blocked us from really seeing what was happening. The pre-conditioned aims blinded us to anything which did not fit into the self-contained system. I can give a classic example. In one biology lesson we were taken to the school's sports hall where we had our heart beat and blood pressures measured. We then engaged in violent exercise and repeated these measurements. Finally we were made to lie down for half an hour and a third set of readings were taken. The aim of the experiment was to show the effect of exercise on our blood pressure and heart. The Result was already implied in the Aim. All the class, with the exception of yours truly, showed the same result. Exercise increased the heart rate and blood pressure, which were restored to their normal levels after a period of rest. I cheated. I had been experimenting at the time with some simple meditation techniques which were capable of regulating the heart beat. Before the first reading I was able to increase my heart rate and, subsequently, decrease it after the exercise. Following the rest period I increased it again. When all the results were pooled the teacher counted my results as an aberration and suggested, (half) jokingly, that I visit a doctor. After the lesson he asked me how I had done this trick. My reply was to smile and tap the side of my head with my forefinger.

Now of course I had played a childish prank, but in retrospect what I did shows the inadequacy of this type of scientific thinking, (at schoolboy level, at least). The real

conclusion of the experiment should not have been that 'exercise increases our heart-rate and blood pressure', but that 'the mind is able to affect and alter our normal physical behaviour'. Because we were looking for a particular result in our experiment we were unable to realise the much more interesting result which my tom-foolery had exposed, and, indeed, it has taken me a long-time to realise the real significance of the real Conclusion of this experiment.

Logical thinking is based on the type of system involved in the methodology of our school science experiments. We tend to know the answers before we begin the search. We try to find proofs of what we already know or suspect, rather than perceiving what is really before us. We order information in rigid pre-conceived patterns. The type of thinking which sculptors indulge in is much more complexly interwoven. Theirs is not a linear 'Aim, Method, Result, Conclusion' type of thinking, but they use a thinking system which allows the most curious of juxtapositions. The sculptor sets up a working environment which particularly encourages those connections of visual and ideitic information which are outside of the normal thinking patterns. The right brain is given free rein.

This current obsession with logic has had its effects in the arts too. Conceptual Art and Deconstructionism purport to a kind of art which is self-conscious. It no longer tries to make art which relates to the world as it exists outside of art, but looks at the very structure of the visual processes of art, themselves. It is art about the act of making art. Structuralist criticism in the world of literature is similar. Structuralist critics were no longer interested in what a novel may have to say about the world, but in how it was written. Criticism of contemporary art exhibitions dwell on the curatorship rather than the art. The age of 'fun fair art' would appear to be upon us. If the art carries no meaningful messages put it together in an interesting way. Make juxtapositions and it will give kicks.

"It is 1993. I have a show in Wernau. I visit the Staatsgalerie in Stuttgart. It is a fine new building with lots of glass which allow glimpses across the central courtyards. The collection appears literally to unfold itself as one moves through the varied spaces. The building as a repository for art is exceptional and moving through it is itself an experience. It is the nearest thing I can think of to a 'cathedral' for art. I enter a room and there is a Carl Andre floor piece - a long 'carpet' of steel plates that pass through the door into the next room. One is 'forced' to walk on it. It leads to the back wall which is full of video monitors, the only other work in the large room. It is Nam June Paik's Joseph Beuys piece and the screens are full of images of Beuys doing what Beuys does. I have just come from looking at the medieval altars in another part of the museum. This is the high altar of modern art. The monitors are literally configured like an altar and the Andre is the red carpet leading up to it. This is our Zeitgeist."

As a student we formed a scratch orchestra within the Fine Art Department with Michael Nyman, who was teaching there at the time - Foster's Social Orchestra. We played, or rather tried to play, tunes by the minor American composer, Stephen Foster and hence the name of our ensemble. At this time Nyman published a book on avant-garde music. I found difficulty in equating the sort of World 2 music which Nyman seemed to value in his book with Stephen Foster. Nyman gave a simple answer to my question; "but I like tunes", he said. I was delighted to see, or rather hear, that Nyman has, in recent years with some help from Purcell, been able to combine his interest in systems with tunes and is now writing what may, once again, be termed 'music'. (And how fine it is too!)

So too, many of the visual artists who have seemingly left the strictly logical and began to literally paint again or make sculpture of a more traditional kind. There are signs of a new engagement with the real world. And yet. . . .. So much of what is being done seems to be so self-conscious. As an art student in the 70's I was teethed on conceptualism. Such teaching as there was, was not about the practice of making sculpture, but about the eminence of the idea as the be all and end all. Everyday when I go into my studio I have to fight with my self-consciousness. My self-consciousness wants me to make art that is about art. I try to switch it off and often get nervous that what I am doing is not modern. I fear using my own empathetic capacity. I am a victim of my time.

Sometimes I forget how much we owe to classical Greece. Our philosophy, science, mathematics, geometry, economics and art are based in the tenets of ancient Greece. Sometimes One feels we are so far away from it, but we have hardly made a step forward in two and a half thousand years. Perhaps that is our mistake. Perhaps there is no forward, only circular time like the seasons, and a reoccurrence again and again of the same issues. In retrospect Minimal Art was pure classical Greek, and Land Art a manifestation of renewed interest in the Romantic. The kind of dualistic response I have proposed for our response to sculpture, or something very similar to it, may be traced back to Aristotle;

„Aristotles a tapasztalatok ket kategóriáját különíti el. Az egyik (érzekelés, etvágy stb.) a test és a lelek egyidejü aktivitásának a termeke. A másik, a racionális, intellektuális tapasztalat (a gondolkodás) viszont egyedül a lelek tevékentségeból fakad." [187]

The idea that art reflects the Zeitgeist, or the spirit of the age, was around in the 70's. It was used as a kind of apology for what we were doing. Art would indeed seem to reflect the spirit of its age, but it should not be used as an excuse for making bad art. The argument went that it does not matter what you do or make, the object will inevitably reflect the spirit of the age. How convenient. As if this were enough.

I have been at pains to show that the artist at work largely uses his empathetic capacity at the expense of the logic of World 2. But, as you will probably have surmised, World 2 crowds in. In those moments when we are not working, such concerns as those I have just mentioned, bubble up into consciousness. It is as if one knows what one should be doing, but something holds one back.

This is not a new phenomenon and various critics have commented on it. John Berger dealt with it in 1960 in 'Permanent Red'. [188] He quotes Chardin on the difficulties of being an artist,

" 'He who has not felt the difficulties of his art does nothing that counts; he, who like my son, has felt them too soon, does nothing at all; and you can be sure that most of the high conditions of society would be empty if one were admitted only after an examination as severe as the one we must pass.'
..... Without any sense of the future one lacks a sense of perspective, and without perspective one is constantly forced into attitudes and theories of trivial opportunism.....
.....The artist sets out to improve the world - not in the way that a reformer or a revolutionary does - but in his own way, by extending what he believes to be the truth, and by expressing the range and depth of human hopes. In a climate of disillusion it becomes very difficult for him to desire or believe in even his kind of improvement. As a result, his art also becomes trivial; he begins to mistake the means for the end.

.....one can define the particular difficulty which the western artist faces today: it is the difficulty of seeing men - including himself - whole again: the difficulty of recognizing what all men have in common, and of having confidence in what they wish to be." [189]

I agree with Berger, but he has made here one big mistake - the same one that Fuller made in writing about Michelangelo and Neumann made in writing about Moore. They have all failed to recognise the way in which the artist thinks and works. For the artists the 'means' are all he can think of. The 'ends' are for others, often for those who have a hobby horse to grind ; some greater scheme - in Berger's case a development towards socialism. The artist's stance is much more humble. He makes. Matisse puts the artist's position very clearly;

The model, *"must not be made to agree with a preconceived theory or effect. It must impress you, awaken in you an emotion, which in turn you seek to express. You must forget all your ideas, all your theories before the subject."* [190]

Before I deal with my own 'sense of the future' I should like to quote one more passage from Berger, which says much about the role of the artist in contemporary society.

"The tragedy of art, and indeed of many other skills and trades, under the late stages of capitalism is that the status of the calling has been totally destroyed, and the standards of superficial success, either in terms of temporary reputation or money, have been put in its place. This has had a far-reaching effect on the artist.

An artist's status in society, when it has been established, is something which he feels behind him, supporting him, encouraging him. Success, with the meaning it has now acquired under capitalism, is something which may or may not happen quite arbitrarily to one or several of his finished works, considered merely as commodities. Thus, whether he seeks or despises success, whether his aim is to please or startle, the bourgeois artist's conscious or half-conscious concern takes the form of his having to foresee, whilst he is still working, the likely effect of the finished work according to quite arbitrary criteria - arbitrary because in no way connected with the truth he may well be trying to communicate. The Bitch-Goddess prowls between him and his canvas, between intention and execution, inhibiting him, making him caricature himself or prompting unnecessary caution or unnecessary excess." [191]

'Times change', as the saying goes, but more importantly, attitudes towards time change. It is easier to understand the past, than to analyse our own present conditions and beliefs. We are too involved in our own time. We cannot step back from it and see it in a rational, detached way.

I have already mentioned that, at the beginning of the Nineteenth Century, the history of man was thought to be only six thousand years old. If one holds such a belief then the achievements of man seem so close and familiar. Plato seems not much older than Jesus Christ, and even God is not so old. If God created the world, and everything in it, in six days, then he did so just before the Egyptian civilisation began.

Today, our view of time is quite different.

"Until the nineteenth century all world cosmologies - even including that of the European Enlightenment - conceived of time as being in one way or another surrounded or infiltrated by timelessness. This timelessness constituted a realm of refuge and appeal. It

was prayed to. It was where the dead went. It was intimately but invisibly related to the living world of time through ritual, stories and ethics.

Only during the last hundred years - since the acceptance of the Darwinian theory of evolution - have people lived in a time that contains everything and sweeps everything away, and for which there is no realm of timelessness. In the galactic perspective proposed by such a cosmology, a hundred years are less than an instant. Even in the perspective of the history of man they cannot yet be considered more than an aberration." [192]

'Dust to dust, ashes to ashes'. We now, thanks to Darwin and Einstein, see that we are an insignificant moment in an inconceivably long process. We were once dust, we became a living entity for a second of time, and we return to the primordial dust from which we once crawled out. It is difficult to find any significance in our existence when we have such a small part to play in the order of things. Peter Fuller's neurotic obsession with trying to relate himself to the historical process, in his autobiographical 'Marches Past', comes to mind. [193] We need to leave a mark, to say that, 'I was here', to give meaning to our existence in time. We try to make our age significant by stuffing everything we produce into museums, supposedly for posterity.

Our view of time is tied up with our obsession with progress. It is as though knowledge is evolving, just as Darwin's species did. It is our mistake. So much 'new' knowledge is merely rediscovered old knowledge, sometimes presented in a different way. The builders of New Grange in Ireland new many moons before Copernicus that the earth revolved around the sun. Euclidean geometry was rediscovered by Euclid. Oppenheimer, when asked if the atom bomb exploded at Almagordo was the first, replied; 'Yes, it was - at least, in our times'. [194] The ancient civilisations of Egypt and Southern and Central America showed a scientific knowledge far in advance of that of the Dark Ages in Europe and perhaps, in certain respects, even of ours today. One could go on almost endlessly.

Because of our own transience we see time as existing in a straight line. But time is circular, or rather, spiral. The seasons come and go, the moon waxes and wanes, as they have done, and will do, for a long time. Each July 19th is not the same as the last, for I have grown older, but I have not moved along the straight line of time. Time has moved around one circle on the spiral and is now one stage away, directly above the last July 19th, and under the next July 19th. I suspect that when we remember we move back through these spirals, and mentally we are able to jump freely from past to present and future. Living in London I had no real notion of time, in this sense. Time was something measured on a watch and appointments kept, or not kept. The villagers, where I live, understand spiral time, for each year is a repetition of the previous year's activity, coupled with the remembered experience of all those previous years. At some point they have stepped onto the wheel and they will later step off it, but the wheel will keep turning. This is the Medieval concept of time, and a concept which is much more holistic and gratifying. The spiral concept is virtually the same but with the addition from Buddhist thought that you can never step into the same river twice.

I have been at pains to differentiate between the logical evaluation of sculpture and, what I have chosen to call, the empathetic evaluation. Logical evaluation conceives of time as moving in a straight line. I have been particularly cagey about getting too involved with psychological and symbolic readings of sculpture. It is this part of our make up which, you will remember, Henry Moore did not wish to read about, and I would go so far as to say that this is the position of sculptors generally. For the sculptor there is no need to try and rationally understand the symbol, the image, and its psychological effects. I think that logical analysis of such matters can never really help

us to understand them. I also think that such logical toying with them will, inevitably, inhibit our capacity to enjoy these aspects of our being. It is quite common to meet with psychologists who are unable to live their non-rational experiences, because they are already analysing them whilst they happen. The other notion of time, the timelessness of the wheel or spiral, is that of the subconscious visual realm of the right brain.

When we lose this holistic concept of time, as our society surely has, we lose our sense of belonging in a significant way. I have already mentioned, in the first chapter, how sculpture encodes certain concepts of time. I have also, I hope, shown how sculpture can be timeless. Whilst it encodes its own Zeitgeist, sculpture can, at its best step out of time and speak to both the past and the future. It has the capacity, even today, to leave the straight line of time, and move through the wheel or spiral, alighting where it will.

Modernism has tended to concentrate on the formal aspects of sculpture and it is, according to Clive Bell, and, differently, to Roger Fry, these aspects which make sculpture timeless. There is, I have proposed, some truth in this, but these formalist aspects, per se, are meaningless. When worked into an image which is related in some way to, and reliant on, the essence of our being, the sculpture may then be timeless and reunite the viewer with a sense of himself within the meaningful wheels of time.

Chapter 6 Manifesto.

"All these figurative works so far (and probably all the other works too), have much more to do with a dialogue with art history than with a real relation to the real world. From a first nod towards classical Greece (or the modern fragmented understanding of it) in the 'Three Graces' and 'Chatilla' there was a move back to pre-classical (Cycladic) influence and now a hotch potch of international borrowings (Aztec, Egyptian, African etc.). Each 'development' is sideways as new art historical discoveries are made (the influence of the Turkish show in Vienna on recent ceramics). Each time I start to explore an avenue which is more my own I get frightened and revert back to something that 'looks like' sculpture (i.e. has a definite art historical precedent). This is because of uncertainty, lack of confidence too, but chiefly because of lack of engagement with the real world and real emotional or rational responses to it. The works do not originate from any engagement other than with myself and my attitudes to existing art.

So what's the way forward? The sort of art that appeals to me, the sort of three dimensional language is clear - a sort of animism, a belief in a fundamental force of objects. The problem is to use this position as a basis of an engagement with the real world and not with art history as an autonomous phenomena. What gives power to those works I so admired was a belief that came from such integrated engagement with life. It is a mistake to think that reproducing bits of this or that cultural language in an eclectic manner will give objects of the same power. A new way forward must be found.

Of crucial importance to my view is gravity - the way things hit the ground, are rooted in it, or grow out of it. Secondly I like objects that express themselves through their presence, i.e. that are simple and direct, which have a kind of geometric simplicity, which express what they have to express by encapsulating the expressed through form, rather than by narrative means. (Say a Cycladic figure is much more expressive to me than the Laocoon!). This perhaps explains my leanings towards the so-called 'primitive' cultural artefacts in preference to the Classical Greek - Renaissance - Rodin tradition.

To make any advances in art one must work within a tradition and innovate within it. For me this tradition lies somewhere between the 'primitive' cultures, but it is, of course, not inherited in a specific cultural sense. My cultural inheritance is that of Greece, Rome, Renaissance, Rodin - or is it? Does not the Celtic culture, the cultures of stone circles & long barrows have more to do with 'Englishness' and similarly the history of man's intervention in the landscape - so evident in Britain. Add to that the Romanesque.

Now all these things have elements of what I want. I just think that 'we' went a bit wrong in our direction, losing all the force of Romanesque, even the bumpkin qualities of local craftsmen too. We were blinded by the alien influence of Renaissance & with it the renewed interest in Classical Greece & Rome. (Roman art of course did colonise Britain at one time, but the art history that follows it suggests that it was an attitude alien to 'British' artists' sensibility).

Perhaps the key to all this lies in those Romanesque cathedrals wherein the joyful sensibility of a mason who carved animals, nature, man in a kind of innocent natural, in-tune way, being worked into the powerful conception of something larger - the building itself. There is a similar power in one small head in Lincoln Cathedral to the entire feeling of the building. It is I think based on a joy of empathetic observation. Somehow the expression on the faces is the feeling. They are not the empty sentimental masks of 19C sculpture - You can't 'express' joy by 'illustrating' it, you must create it, imbue the material with it vis a vis Lincoln Cathedral or Southwell Minster's carvings." (From my notebook 21.2.1991)

I was probably having an off-day when I wrote this. I know those times too well. They usually come after making a large work abroad somewhere and I have to pick up the threads when I return to the peace of my studio, or perhaps when I have a large exhibition and I work hard to finish work for it and then the studio is suddenly empty and I must begin again. At times like these I tend to ponder on what I have done and why and where to go next and it is often a period of very hard self-criticism. Then I start to make something and the rhythm of the physical work takes over. From my arguments it would seem that the left side of my brain has been dominant in these thinking periods and then the right side takes the upper hand as I get back into the groove. However, re-reading this entry in an old notebook, I do think that it encapsulates, to some extent at least, my current position, as much as one is able to explain that in words.

There is a danger of mistaking the position that I have taken as a formalist one. The materialist basis of my argument is evident. My placing the origin of beauty, and our emotional reaction to it, in the recognition of the very physiological patterns which control our senses, would suggest that I believe only in a reaction to the formal aspects of line, shape, etc.., with which I began. But we must remember that the right side of the brain is responsible for our response to holistic images, whilst the left side of the brain reads formalist detail. The empathetic capacity is a response to the total image of the sculpture, and not to its parts. Formalist evaluation of sculpture is of the intellect and, subsequently, of the left brain.

There is a further difference. The formalist approach values the lines, shapes, etc., and there interrelationships, as an end in themselves. In a strictly formalist sculpture there are only these elements and thus as image which alludes, basically, to itself. The type of sculpture which I champion uses line, shape, etc., only as elements in the final image. The image is more than a sum of its parts and quite other than are they. My version of aesthetic reaction is a response to the holistic image and not to consideration of the individual formal elements, for this latter is an intellectual activity. It is this which differs my stance from that of Clive Bell in his book 'Art', which I read around twenty five years ago. I was reminded of it again by Peter Fuller [195] I do agree with Bell that 'we gibber' when we talk of works of art and I do agree that the Renaissance attitude began to destroy the idea of the 'pure aesthetic rapture' of art because in it, 'intellect is filling the void left by emotion and supplanting it with 'science and culture'. But his idea of 'Significant Form' is a mistake. Form in itself is not significant, except in the way in which it contributes to that communicative image which arouses a physiological reaction within us along with their corresponding psychic events.

I do not deny that there is a formalist approach to sculpture, or that its achievements may be considerable. It is, though, by its nature, bound to its time and place and, however high its intellectual merits, will never be profound. The whole ideal of the formalist approach in the absolute sense, is to expurgate the work of references to anything other than its own self. In this it denies the possibility of meaning and of emotional response. I am reminded of the words of the formalist critic Roger Fry;

"The form of a work of art has a meaning of its own and the contemplation of the form in and for itself gives rise in some people to a special emotion which does not depend upon association of the form with anything else whatever." [196]

I have begged to disagree.

When we empathise with, and are moved by, a sculpture, it is not, firstly, because of a certain juxtaposition of lines or shapes alone, but because the image, the wholeness of the thing, arouses us. It involves us in a parallel feeling of wholeness, of 'being in accord with life', as Wheeler put it.

"Modern man does not understand how much his "rationalism" (which has destroyed his capacity to respond to numinous symbols and ideas) has put him at the mercy of the psychic "underworld." He has freed himself from "superstition" (or so he believes), but in the process he has lost his spiritual values to a positively dangerous degree. His moral and spiritual tradition has disintegrated, and he is now paying the price for this break-up in world-wide disorientation and dissociation." [197]

Intellectual arguments about the specific nature of the symbol and the tenets of psychology will never help us to understand the sculpture that we are seeing, for our ability to make a profound intellectual response to the symbol has become debased by a lack of shared beliefs. We can no longer programme our profound responses to sculpture through intellectual contemplation of the symbol. We can only wait and appreciate profound responses when they come. I am sure, though, that they will arise more frequently if we clear our heads of intellectual concerns and begin to 'look' at sculpture again.

I made mention earlier of those Nineteenth Century marble sculptures in which the artist merely illustrated the emotion of, say, sorrow. They had an awful sentimentality about them, for they merely illustrated and made no attempt to arouse an empathy within the viewer through an 'embodied' image. They were based on an ethic rooted in the intellect, ultimately on that of Alberti, and one might, were there space here, trace the decline in sculptural values from his time to the late Nineteenth Century. The modern movement reversed this trend and showed signs of a new holistic attitude towards sculpture which was, in fact, very old. It is no accident that the force of much modern sculpture from the early part of this century has a look and feel - the conviction - which is normally associated with ancient, or so-called 'primitive' art. I suspect that this sense of wholeness was based in a belief in the harmonic future which the technological revolution seemed to proffer. Whilst the First World War damaged this sense of wholeness, the Second World War, and its aftermath, destroyed it entirely. [198]

Since the Second World War our society has been transformed. Our feelings of security and belonging, our hopes and our fears, our ethics and morals, and, to a large extent, our world view, have all become based in the belief in the importance of money. We fear poverty, we hope for financial security, we dream of the big Football Pools, or Lottery win. Killing is wrong, but when a country's financial security is at stake... In such a climate, where genuine hope and a sense of the future is difficult, our intellect has become valued at the expense of our intuitions and instincts. But it is in art that there are signs of hope.

Following a period of intellectualism in art which was at its strongest in the 1970's and carried through into the 1980's there has been a return to the old alchemist principle of the 'spirit in matter', which was especially strong at the beginning of this century. This is why we may consider the language of sculpture to have a vital reparative role in today's society - it has the ability to heal. Through it we may once again make imaginative, holistic, interpretations and to see the object as a physical equivalent for something spiritual. As Aniela Jaffé puts it:

"Psychologically interpreted, this spirit is the unconscious. It always manifests itself when conscious or rational knowledge has reached its limits and mystery sets in, for man tends to fill the inexplicable and mysterious with the contents of his unconscious." [199] [200]

Lacking a dynamic, systematic, intellectually-based symbolic order, we must rely on our ability to make subconscious associations, based in our collective instincts, with the image of the sculpture. Today, this is the only way in which the sculpture may speak to us of that which is beyond the merely personal, and relate the individual self of the viewer to the universal experience of existence, in the present, past and future.

"...If the philosophical language game is going to have any value beyond mere self-indulgence (which is sufficient for many scholars) there must be a point at which the world is translated into symbols and a point at which the results are translated back into the real world." [201]

So my manifesto is this:

1) Sculpture and, thus, our reaction to it, must be again holistic and must achieve this through reliance on the first response of what I have called the 'empathetic capacity', situated in the unconscious right side of the brain. If we are to have a sense of wholeness, a sense of order and of place in the world, we must begin to trust again in that genetically based, constant capacity that is latent within us.

2) Sculpture must engage with the real world outside of sculpture. It must encode life, the world and our experience of being in it.

If it does these two things sculpture will have a meaningful role in society once again.

Postscript

The process of writing this has been, in some ways, similar to the making of a sculpture. I began with an idea, in this case, an argument. The rough form I knew as I set out to write, but I had no idea of its final shape. In the process parts have been added, taken away, changed, and the whole has been knocked into shape and finally polished. The big difference lies, of course, between the visual language of sculpture and the intellectual, word-language of a book. A parallel may be made between the final visual image of the sculpture, (and its meaning,) and the final intellectual argument of the book, (and its meaning). The success, or otherwise, of a sculpture, and a book, respectively, rest here.

I once spoke with Fuller about the difference between writing about, and making, art. I asked him about his own experience of making art, for his, seeming, lack of understanding of the processes involved, always has, and still does bother me. He replied quite simple; 'I write. Isn't that enough.' It is only now that I understand what he meant by this reply. I should add that I am humbled by the breadth of his knowledge, and by that of many of the other writers whom I have referred to in the text. I have tried to express something of the sculptor's attitude towards sculpture. I hope that this work is not merely the view of one sculptor.

Those who are familiar with Fuller's work will surely be able to see this text as a rather thinly disguised attempt to put down those things which I valued, and, more to the point, those things which I could not accept, in his thesis. I am sorry that we cannot continue the argument personally, for I am sure that he would have been horrified by what I have written, and may well have been able to put me right.

I have always thought of science as being based on logic and on, more or less, proven facts. In preparing this study I realised that science is just as full of opinion and widely differing theories, as is philosophy, or art, and that it relies on intuition much more than its protagonists may willingly recognise. The reverse may also be said of artists, for I am aware that I have made too strong a distinction between the conscious and subconscious, between the intellectual and the empathetic, for in practise the two are complexly interwoven and not so easily separable. I have come to realise that those working in each of these different fields are really trying to do the same thing, in their different ways. It is, I suppose, a search for truth, although I prefer to think of it as a search for understanding. The methodologies are quite different, but perhaps we can proceed better through co-operation between disciplines.

I leave the last word to Betrand Russell;

"Science tells us what we can know, but what we can know is little, and if we forget how much we cannot know we become insensitive to many things of very great importance." [202]

[1] I had a copy of Tucker's original, unpublished, seminar notes.
[2] William Tucker 'The Language of Sculpture', Thames & Hudson, London, 1974.
[3] William Tucker, op. cit.. pages 20-21.
[4] Rainer Maria Rilke, 'Rodin', translated by Jessie Lamont & Hans Trausil, London, 1949.
[5] Paul Klee, 'Pedagogical Sketchbook', Faber & Faber, London, 1953. (My edition 1968)
[6] Paul Klee, op. cit.. page 9.
[7] M.-L. von Franz, 'The Process of Individuation', in Carl Jung, 'Man & His Symbols', Aldus Books Ltd, London, 1964. My edition, Picador, 1978. Pages 221-224.
8 For example the work of Nigel Hall, Alexander Calder's 'Circus', Picasso's wire constructions and to a lesser extent some of Nuam Gabo's constructions.
[9] As in the work of Anthony Caro, for example.
[10] Nuam Gabo's work, again.
[11] T.S.Eliot 'The Hollow Men', 1925, from 'Collected Poems 1909-1962', Faber & Faber, London, 1963.
[12] Alexander Calder's work is a prime example.
[13] Michael Freid, 'Anthony Caro', Arts Council of Great Britain, London, 1969.
[14] Ernst Neizvestny, 'Space, Time and Synthesis in Art', Mosaic Press, Oakville, 1990. Page 85.
[15] Other research suggests that Euclid merely rediscovered his mathematical rules and that the golden section, for example, was a much older measure. See Theopanis Manias, 'The Invisible Harmony of the Ancient Greek World and the Apocryphal Geometry of the Greeks', Athens. 1969.
[16] Robert Kudielka, 'Phillip King's Sculpture', Arts Council of Great Britain, London, 1981.
[17] Bertrand Russell, 'The History of Western Philosophy', George Allen & Unwin Ltd, London, 1961. Pages 177-78.
[18] In particular the work of Dan Flavin.
[19] Rosalind E. Krauss 'Passages in Modern Sculpture', Thames & Hudson, London.
[20] John Berger, 'Painting and time', from 'The White Bird', Chatto & Windus, London, 1985. Page 205.
[21] Christos Doumas, 'Cycladic Art' ,Catalogue number 178 in the British Museum's catalogue of the N.P. Goulandris Collection, London, 1983.
[22] Patrick Heron, 'Late Matisse' in Modern Painters, Vol. 6 no. 1, Spring 1993.
[23] Edward de Bono, 'I am Right, You are Wrong', Penguin Books, London, 1991. Page 152
[24] Gertrude Stein, 'What Are Master-pieces and Why Are There So Few of Them', from 'Look at Me Now and Here I Am', Penguin Books, 1967.
[25] Peter Fuller, 'Art & Psychoanalysis', Writers & Readers, London, 1980. Pages 12-13.
[26] Peter Fuller, 'Beyond the Crisis in Art'.
[27] Reuben Wheeler, 'Man, Nature & Art', Pergamon Press, Oxford, 1968.
[28] Wilson Duff, 'Images Stone B.C.', University of Washington Press, 1975. Pages 14-15.
[29] These are themes which run throughout Fuller's later writings and which are dealt with in considerable detail in Peter Fuller, 'Theoria', Chatto & Windus, London, 1988.
[30] Ernst Neizvestny, op. cit.. pages xxix - xxx.
[31] Bhagavad-gita, Hungarian Edition, The Bhaktivedanta Book Trust, 1989.
[32] Fuller was killed in a car crash in 1990.
[33] Fuller's materialism, I feel sure, derives from a difficult relationship with his father who was a devout Christian. See Peter Fuller, 'Marches Past', Chatto & Windus, London, 1986.
[34] Ruby Ginner, 'Gateway to the Dance', Newman Heane. Quoted in Reuben Wheeler, op. cit.. Page 5.
[35] John C. Eccles, 'The Evolution of the Brain: Creation of the Self', Routledge, London, 1989. Page 1.
[36] John Maynard Smith, 'Evolutionary Genetics', Oxford University Press, 1989.
[37] John C. Eccles, op. cit.
[38] Richard Dawkins, 'River out of Eden', Hungarian Edition, 'Folyam az Édenkertből', Basic Books, 1995.
[39] John C. Eccles, op. cit.
[40] Richard Dawkins, op. cit., page 29
[41] Richard Dawkins, op. cit., page 28
[42] Richard Dawkins, op. cit., page 30
[43] John Maynard Smith, op. cit.
[44] Charles Darwin, 'On the origin of species by means of natural selection or the preservation of favoured races in the struggle for life', Murray, London, 1859. My edition; Penguin Classics, 1985
[45] John Maynard Smith, op. cit., pages 42-44.
[46] John Maynard Smith, op. cit.., page 9.
[47] John C. Eccles, op. cit.., page 13.
[48] John C. Eccles, op. cit., page 5.
[49] John C. Eccles, op. cit., page 8.

[50] John C. Eccles, op. cit., page 48.
[51] W.G. Hoskins, 'The making of the English Landscape", Pelican Books, Middlesex, 1970.
[52] Richard Dawkins, op. cit., page 79.
[53] Charles Darwin, op. cit., page 20.
[54] Charles Darwin, op. cit., page 142.
[55] Charles Darwin, op. cit., page 319.
[56] Charles Darwin, op. cit., page 80.
[57] Charles Darwin, op. cit., page 89-90.
[58] Charles Darwin, op. cit., page 96.
[59] See 'volt-e világháború a távoli oskorban?' in Erich von Däniken, 'Újabb jelek a kozmoszból', LAP-ICS Press, Budapest, 1995.
[60] See Mihály Derera, 'Szárnyas istenkék, foldi bálványkák', Móra Press, Budapest, 1982.
[61] T.C. Lethbridge, 'The Legend of the Sons of God', Sidgwick & Jackson, London, 1972.
[62] Erich von Daniken, 'A múlt prófétája', LAP-ICS Press, Budapest, 1994. Pages 50-77.
[63] See 'Az Ediacara-fauna rejtélye', in Erich von Daniken, 'Jelek a Kozmoszból', LAP-ICS Oress, Budapest, 1992. Pages 269-272.
[64] Martina Steinhardt, from Erich von Däniken, 'Újabb jelek a kozmoszból', LAP-ICS Press, Budapest, 1995. Pages 66-70.
[65] Fred Hoyle and N.C. Wickramasinghe, 'Evolution from Space', London, 1981.
[66] Fred Hoyle, 'Diseases from Space', London, 1979.
[67] Fred Hoyle & Chandra Wickramasinghe, 'Our Place in the Cosmos', Phoenix, London, 1996. Page 140.
[68] Peter Fuller, 'Images of God', Chatto & Windus, London, 1985. Pages 298-311.
[69] 'Darwin's Black Box' by Michael Behe, Simon & Schuster, London, to be published on November 4th 1976. The book was previewed by Stuart Wavell in The Sunday Times on 13 th October 1996
[70] John C. Eccles, op. cit., page 48.
[71] H, Margenau, 'The miracle of Existence', Woodridge, Conn., Ox Bow Press. 1984. Page 96.
[72] Richard Dawkins, op. cit., page 32.
[73] Richard Dawkins, op. cit., page 20.
[74] John C. Eccles, op. cit., page 176.
[75] John Maynard Smith, op. cit., page 12.
[76] John C. Eccles, op. cit., page 87.
[77] Eccles gives an account of these in John C. Eccles, op. cit., pages 76-80.
[78] H. Feigl, 'The "Mental" and the "physical"', Minneapolis: University Of Minnesota Press, 1967.
[79] Edward de Bono argues differently - "...contrary to our traditional view, the brain may be a very simple mechanism acting in a highly complex way.", although the difference between these two statements may merely be pedantic. See Edward de Bono, op cit., page 35.
[80] John C. Eccles, op. cit., pages 207-8.
[81] Jerre Levy 'Psychological implications of bilateral asymmetry' in S.J. Dimond & J.G. Beaumont, editors, 'Hemisphere function in the human brain', New York, Wiley, 1974.
[82] K.R. Popper and J.C. Eccles, 'The self and its Brain', Berlin, Heidelberg, London, New York, Springer-Verlag, 1977.
[83] John C. Eccles, op. cit., page 72.
[84] John C. Eccles, op. cit., page 220.
[85] John C. Eccles, op. cit., page 223.
[86] R.W. Sperry, 'Lateral specialisation in the surgically separated hemispheres' in The Neurosciences, edited by F.O. Schmitt & F.G. Worden, 1974.
[87] See H. Margenau, op. cit.
[88] John C. Eccles, op. cit., page 192.
[89] Patrick Heron, 'Solid Space in Cézanne', in Modern Painters, Vol. 9 no. 1, Spring 1966.
[90] John C. Eccles, op. cit., page 137.
[91] John C. Eccles, op. cit.. page 117.
[92] John C. Eccles, op. cit., page 120.
[93] John C. Eccles, op. cit., page 120.
[94] John C. Eccles, op. cit., page 126.
[95] Dr. Ádám György and Fehér Ottó, 'Élettan Biologosoknak', Tankönyvkiadó, Budapest, 1988.
[96] Dr. Ádám György and Fehér Ottó, op. cit, page 818.
[97] Dr. Ádám György and Fehér Ottó, op. cit., page 822.
[98] Dr. Ádám György and Fehér Ottó, op. cit., page 832.
[99] Dr. Ádám György and fehér Ottó, op. cit., pages 816-7.

[100] Dr. Ádám Gyorgy and Fehér Ottó, op. cit., page 817.
[101] Dr. Ádám Gyorgy and Fehér Ottó, op. cit., page 835.
[102] Tibor kukorelli, from Dr Ádám Gyorgy and Fehér Ottó, op. cit., pages 952-3.
[103] R.L. Gregory, 'Eye and Brain, The Psychology of Seeing', Oxford University Press, Fourth Edition, 1995.
[104] R.L. Gregory, op. cit., page 10.
[105] R.L. Gregory, op. cit., pages 13-14.
[106] Quoted by R.L. Gregory, page 153.
[107] R.L. Gregory, pages 161-162.
[108] R.L. Gregory, op. cit.. page 177.
[109] Dr. Ádám Gyorgy and Fehér Ottó, op. cit., page 967.
[110] Tibor Kukorelli in Dr. Ádám Gyorgy and Fehér Ottó, op. cit., page 950.
[111] Tibor kukorelli in Dr. Ádám Gyorgy and Fehér Ottó, op. cit., pages 944-5.
[112] Dr. Ádám Gyorgy and Fehér Ottó. op. cit., page 919.
[113] Tibor Kukorelli in Dr. Ádám Gyorgy and Fehér Ottó, op. cit., page 958.
[114] Reuben Wheeler, op. cit., page 30.
[115] Reuben Wheeler, op. cit., pages 29-30.
[116] Garnett McCoy, 'David Smith', Allen Lane, London, 1973. Page 63.
[117] Henri Matisse, 'Notes d'un peintre' 1908, reproduced in Dominique Fourcade, 'Henri Matisse. Écrits et propos sur l'art', Hermann, Paris, 1972.
[118] Reuben Wheeler, op. cit., page 30.
[119] Andy Goldsworthy, 'giving natural objects their own eloquence', 23 December 1980, photo in Modern Painters, Vol. 8, no. 1, Spring 1995.
[120] Ernst Neizvestny, op. cit., page 1.
[121] David Smith, op. cit., pages 86-7.
[122] Ádám Gyorgy and Fehér Ottó, op. cit., page 731.
[123] Jose Silva and Philip Miele, 'Agy Kontroll', General Press, Budapest, 1989.
[124] Jose Silva and Philip Miele, op. cit., page 13.
[125] Ádám Gyorgy and Fehér Ottó, op. cit., page 732.
[126] Tony Cragg, interview with Demosthenes Davvetas in Art & Design, 'British Art Now' London, 1988.
[127] Garnett McCoy, op. cit., page 79.
[128] When Serota took over as director of the Tate Gallery in London, he began a series of annual rehangs in order to show parts of the collection which were rarely seen. Generally speaking they were widely acclaimed and certainly Serota's effort is laudable. In this case, he made a mistake with the Brancusi.
[129] Glyn Williams, 'Ancient Art of Mexico in London' in Modern Painters, Vol. 5 no. 4, winter 1992.
[130] Garnett McCoy, op. cit..
[131] Tony Cragg, op. cit.,
[132] One can sense the importance of the kitchen table in village life in John Berger's essay 'The eaters and the eaten', in 'The White Bird', Chatto & Windus, London, 1985.
[133] It makes interesting reading to compare the arguments put forward by the lawyers of the customs officials in the court case brought against Brancusi, when he was tried for trying to smuggle raw metals into America, the raw metals being his sculptures. The sort of prejudices shown by the British press over the Bricks Affair were very similar. But even so, I think that Andre's work is in no way comparable in status to Brancusi's, although I must say that even Brancusi produced some very weak works on occasion. I am thankful to Sean Maslin for pointing out the similarity of these two art incidents.
[134] Peter Fuller, 'Art & Psychoanalysis', op. cit., Page 33.
[135] Peter Fuller, Art & Psychoanalysis, op. cit., page 30.
[136] Sigmund Freud, 'The Moses of Michelangelo', in 'Standard edition of The Complete Psychological Works of Sigmund Freud' 24 vols. Hogarth Press, London. Page 211.
[137] For a discussion of the role of symbolism in sculpture see 'Reading the Image' in Part 4, below.
[138] John Berger, 'A Painter of our Time', Writers & Readers, London, 1976. Pages 89-90.
[139] Peter Fuller, 'Theoria', op. cit..
[140] Reuben Wheeler, op. cit..
[141] Reuben Wheeler, op. cit., page 66.
[142] Waldemar Januszcsak, 'The Critic as Jeff Koons Fan' in Modern Painters, Vol. 1, no. 2, Summer 1988. This is a witty interview between Januuszcsak and himself , as if he were being interviewed by Peter Fuller, the, then editor of the magazine Modern Painters. Whilst poking fun at Fuller, with whom he rarely saw eye to eye, much of what he has to say is quite pertinent.
[143] Peter Fuller, ' Art & Psychoanalysis', op. cit., pages 71-129.

[144] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 97.
[145] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 99.
[146] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 121.
[147] Peter Fuller, 'Art & Psychoanalysis' , op. cit., pages 118-9.
[148] William Tucker, 'The language of Sculpture', op. cit..
[149] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 124.
[150] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 125.
[151] Carl Jung, editor, 'Man & his Symbols', Picador Books, London, 1978. Page 85.
[152] W.G. Hoskins, op. cit..
[153] See K.R. Popper & J.C. Eccles, op. cit..
[154] G. Baumgartner, 'Psychophysics and central processing' in A. Ashbury, etc. 'Diseases of the Nervous System: Clinical Neurobiology' vol. 2, Heinemann Medical books, London, 1986. Quoted by John C. Eccles, op. cit., page 139.
[155] Geoffrey Chaucer. 'The Canterbury Tales', c. 1387. My edition J.M. Dent & Sons Ltd., Everyman's Library, 1958. This is an extract from 'The Nun's Priest's Tale', versus 3718-3736.
[156] Aniela Jaffé, 'Symbolism in the Visual Arts', in Carl Jung, 'Man & His Symbols', op. cit., page 310.
[157] Christian Duverger, Catalogue for the exhibition 'Les arts de l'Amerique latine', Unesco, 1977. Foe a more serious account of the ball game see Wolf Günter Thieme, 'Ullamaliztli, das altindianische Ballspiel' in 'Glanz und Untergang des Alten mexico', Verlag Philipp von Zabern, Mainz, 1986.
[158] Ernst Neizvestny, op. cit., page 25.
[159] Reuben Wheeler, op. cit..
[160] Reuben Wheeler, op. cit., page 55.
[161] For Loki see Kevin Crossley-Holland 'The Norse Myths', Penguin Books, 1980. For Cu Chulaind see 'Early Irish Myths and Sagas', Penguin Books, 1981.
[162] Carl Jung, op. cit., page 4.
[163] Dr. Ádám Gyorgy and Fehér Ottó, op. cit., pages 994-5.
[164] Carl Jung, op. cit., page 58.
[165] Carl Jung, op. cit., page 25.
[166] Carl Jung, op. cit., page 72.
[167] Carl Jung, op. cit., page 69.
[168] I should point out here that I find that much of what Jung calls archetypal is well beyond the realms of the physiologically based instincts. His failure, for my part, was his inability to distinguish that which is truly instinctive, i.e. physiologically and genetically based, from that which is based in accrued experience.
[169] Carl Jung, op. cit., page 4.
[170] Johannes Greber, 'Der Verkehr mit der Geisterwelt Gottes', 1932. My translation: 'Kapcsolat Isten Szellemvilágával', Greber Kör, Pécs.
[171] Johannes Greber, op. cit., page 72.
[172] John C. Eccles, op. cit., page 176.
[173] This is a point made by, amongst others, M.-L. von Franz in 'Science and the Unconscious', in Carl Jung, op. cit., pages 377-387.
[174] Bertrand Russell, op. cit., pages 787-788.
[175] Bertrand Russell, op. cit., page 789.
[176] John C. Eccles, op. cit., page 189.
[177] T. C. Lethbridge, 'The Legend of the Sons of God', op. cit
[178] John Michell discusses the idea in relation to, amongst other things, the ancient Chinese Seng fui in 'Atlantisz Öröksége', Édesviz Kiadó, Budapest.
[179] Guy Underwood, 'The Pattern of the Past', Abacus paperback, 1972.
[180] Peter Fuller, 'Images of God', op. cit..
[181] Peter Fuller, 'Images of God', op. cit., page 30.
[182] See Peter Fuller, 'Art & Psychoanalysis, op. cit..
[183] Quoted in Peter Fuller, 'Images of God', op. cit., page 28
[184] Peter Fuller, 'Art & Psychoanalysis', op. cit., page 41.
[185] Reuben Wheeler, op. cit., page 4.
[186] Carl Jung, op. cit., page 31.
[187] Tibor Kukorelli in Dr. Ádám György and Fehét Ottó, op. cit., page 958.
[188] John Berger, 'Permanent Red', 1960. My edition, Writers & Readers, London, 1981.
[189] John Berger, 'Permanent Red', op. cit., pages 31-32.
[190] André Verdat, 'Entretions avec Henri Matisse' 1952. Quoted in John Elderfield, 'The Drawings of Henri Matisse' Thames & Hudson, London, 1984.

[191] John Berger, 'Permanent Red', op. cit., pages 210-11.
[192] John Berger, 'Painting and Time' from 'The White Bird', op. cit..
[193] Peter Fuller, 'Marches Past', op. cit..
[194] Erich von Däniken, 'Újabb jelek a kozmoszból', op. cit., page 152.
[195] Peter Fuller, 'Art & Psychoanalysis', op. cit., pages 145-49.
[196] Roger Fry, 'The Artist & Psychoanalysis', Hogarth Press, London. Quoted by Peter Fuller in ' Art & Psychoanalysis, op. cit., page 16.
[197] Carl Jung, op. cit., page 84.
[198] One must also note the importance of the effect of the new physics on Twentieth Century art. Einstein's theory of relativity changed the way we see matter. Matter is no longer a concrete thing, but simply energy. Thus, that attitude to matter, which was always fundamental to sculpture, has become disintegrated. The holistic notion of an absolute matter has been replaced by the temporal notion of force fields which alter over time. I suspect that this is one of the main reasons for the increased use of the constructive mode in sculpture, and with it the disintegration of the holistic image. The current trend for making 'Installation' sculpture is a personification of this change of attitude. This whole question may be the subject of another study, which is why I only mention it in passing here. See Albert Einstein, 'Relativity - Einstein', Routledge, London, 1960.
[199] Aniela Jaffé, 'Symbolism in the Visual Arts', in Carl Jung, 'Man & His Symbols, op. cit., page 292.
[200] I should point out here that Jaffé argues that the unconscious must be balanced by the conscious in art, as, otherwise, it will lead to the expression of despair. (See pages 314-316) I simply disagree, although it may be true of art produced by the mentally unbalanced patients, with whom Jaffé was professionally familiar. What I am arguing is that the subconscious may have a role, quite separate from the conscious, and that this is, of a holistic nature. It may recognise holistic images and beauty. It has a reparative role without resource to the rational. It is based on physiological elements which are common to all of us. One of its manifestations is the visual language of sculpture. I am aware that I am here taking a stance that is contrary to all psychological thinking, but I hope that I have been able to show that there is physiological evidence for my theory.
[201] Edward de Bono, 'I am Right, You are Wrong', Penguin Books, London, 1991. Page 153.
[202] Bertrand Russell, op. cit..